



# **STIC Search Report**

**EIC 1700**

**STIC Database Tracking Number: 136323**

**TO: Matthew Daniels**  
**Location: Rem 6A11**  
**Art Unit : 1732**  
**November 2, 2004**

**Case Serial Number: 10/800505**

**From: Les Henderson**  
**Location: EIC 1700**  
**REM 4B28 / 4A30**  
**Phone: 571-272-2538**

**Leslie.henderson@uspto.gov**

## **Search Notes**

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(FILE 'HOME' ENTERED AT 09:02:37 ON 02 NOV 2004)

FILE 'REGISTRY' ENTERED AT 09:02:45 ON 02 NOV 2004

L1           E POLYPROPYLENE/CN  
           1 SEA ABB=ON   PLU=ON   POLYPROPYLENE/CN  
           D SCAN  
           E POLYPROPYLENE/CN  
 L2           1 SEA ABB=ON   PLU=ON   ("POLYPROPYLENE FIBERS"/CN OR "POLYPROPYLEN  
           E FIBERS, ISOTACTIC"/CN OR "POLYPROPYLENE FIBERS, WOVEN"/CN)  
           D SCAN

FILE 'HCA' ENTERED AT 09:09:30 ON 02 NOV 2004

L3           95965 SEA ABB=ON   PLU=ON   L1  
 L4           176013 SEA ABB=ON   PLU=ON   POLYPROPYLENE# OR PP  
 L5           185847 SEA ABB=ON   PLU=ON   L3 OR L4  
 L6           0 SEA ABB=ON   PLU=ON   L2  
 L7           86969 SEA ABB=ON   PLU=ON   GLASS##(A) (FIBER? OR FIBR?)  
 L8           126467 SEA ABB=ON   PLU=ON   CUT OR CHOP?  
 L9           4322 SEA ABB=ON   PLU=ON   L8 AND L7  
 L10          7113 SEA ABB=ON   PLU=ON   L5 AND L7  
 L11          488 SEA ABB=ON   PLU=ON   L5 AND L9  
 L12          2281997 SEA ABB=ON   PLU=ON   COMPOSIT?  
 L13          3947 SEA ABB=ON   PLU=ON   L12 AND L10  
 L14          308 SEA ABB=ON   PLU=ON   L12 AND L11  
 L15          115502 SEA ABB=ON   PLU=ON   THERMOFORM? OR THERMOPLASTIC? OR (HEAT? OR  
           THERMOL? OR THERMAL? OR MELT? OR FUSE# OR FUSING# OR FUSION?) (A  
           ) (FORM## OR FORMING# OR MOLD?)  
 L16          1438 SEA ABB=ON   PLU=ON   L13 AND L15  
 L17          308 SEA ABB=ON   PLU=ON   L13 AND L14  
 L18          8 SEA ABB=ON   PLU=ON   SUPERLITE? AND AZDEL  
           D SCAN  
 L19          6 SEA ABB=ON   PLU=ON   L18 AND L15  
           D SCAN  
 L20          111 SEA ABB=ON   PLU=ON   L15 AND L14  
 L21          1636 SEA ABB=ON   PLU=ON   L16 OR L17 OR L19  
 L22          344 SEA ABB=ON   PLU=ON   HEADLINER# OR HEADLINING# OR HEAD(A) (LINER#  
           OR LINING#)  
 L23          10 SEA ABB=ON   PLU=ON   L22 AND L21  
           D SCAN  
 L24          435 SEA ABB=ON   PLU=ON   HEAD(2A) (IMPACT? OR PROTECT?)  
 L25          0 SEA ABB=ON   PLU=ON   L23 AND L24  
 L26          4 SEA ABB=ON   PLU=ON   L22 AND L24  
           D SCAN  
 L27          2 SEA ABB=ON   PLU=ON   L26 AND L5  
           D SCAN  
 L28          12 SEA ABB=ON   PLU=ON   L23 OR L27  
           D SCAN L27  
           D SCAN L23  
 L29          607795 SEA ABB=ON   PLU=ON   PROTECT? OR SAFETY?  
 L30          9 SEA ABB=ON   PLU=ON   L29 AND L22  
           D SCAN  
 L31          4 SEA ABB=ON   PLU=ON   L5 AND L30  
           D SCAN  
 L32          1 SEA ABB=ON   PLU=ON   L31 AND L15  
           D SCAN  
 L33          117 SEA ABB=ON   PLU=ON   L15 AND L22

L34 QUE ABB=ON PLU=ON LAMEL? OR LAMIN? OR MULTILAYER? OR  
MULTICOAT? OR MULTIFILM? OR (MULTI OR MULTIPL? OR PLURAL? OR  
THREE OR MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTIFOLD? OR  
MANIFOLD? OR MULTITUD?) (2A) (LAYER? OR COAT? OR FILM?) OR  
THREEPLY? OR THREEPLIES OR THR

L35 69 SEA ABB=ON PLU=ON L33 AND L34

L36 20 SEA ABB=ON PLU=ON L35 AND L5

L37 3 SEA ABB=ON PLU=ON L21 AND L35  
D SCAN

L38 1 SEA ABB=ON PLU=ON L29 AND L36  
D SCAN

L39 4 SEA ABB=ON PLU=ON L37 OR L38

L40 2 SEA ABB=ON PLU=ON L35 AND L29  
D SCAN

L41 5 SEA ABB=ON PLU=ON L40 OR L39

L42 305057 SEA ABB=ON PLU=ON AUTO# OR AUTOMOBILE# OR CAR# OR VEHICLE#  
OR TRUCK# OR VAN#

L43 7 SEA ABB=ON PLU=ON L30 AND L42

L44 4 SEA ABB=ON PLU=ON L42 AND L31

L45 1 SEA ABB=ON PLU=ON L42 AND L32

L46 7 SEA ABB=ON PLU=ON L43 OR L44 OR L45

L47 69 SEA ABB=ON PLU=ON L35 AND L42

L48 20 SEA ABB=ON PLU=ON L36 AND L42

L49 16 SEA ABB=ON PLU=ON L36 NOT L41

L50 16 SEA ABB=ON PLU=ON L48 NOT L39

L51 33 SEA ABB=ON PLU=ON L48 OR L43 OR L28

L52 12 SEA ABB=ON PLU=ON L28 AND L51

L53 21 SEA ABB=ON PLU=ON L51 NOT L28

L54 2 SEA ABB=ON PLU=ON L52 AND L46

L55 5 SEA ABB=ON PLU=ON L46 NOT L54

L56 16 SEA ABB=ON PLU=ON L53 NOT L55

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L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON POLYPROPYLENE/CN

L3 95965 SEA FILE=HCA ABB=ON PLU=ON L1

L4 176013 SEA FILE=HCA ABB=ON PLU=ON POLYPROPYLENE# OR PP

L5 185847 SEA FILE=HCA ABB=ON PLU=ON L3 OR L4

L7 86969 SEA FILE=HCA ABB=ON PLU=ON GLASS##(A) (FIBER? OR FIBR?)

L8 126467 SEA FILE=HCA ABB=ON PLU=ON CUT OR CHOP?

L9 4322 SEA FILE=HCA ABB=ON PLU=ON L8 AND L7

L10 7113 SEA FILE=HCA ABB=ON PLU=ON L5 AND L7

L11 488 SEA FILE=HCA ABB=ON PLU=ON L5 AND L9

L12 2281997 SEA FILE=HCA ABB=ON PLU=ON COMPOSIT?

L13 3947 SEA FILE=HCA ABB=ON PLU=ON L12 AND L10

L14 308 SEA FILE=HCA ABB=ON PLU=ON L12 AND L11

L15 115502 SEA FILE=HCA ABB=ON PLU=ON THERMOFORM? OR THERMOPLASTIC? OR  
(HEAT? OR THERMOL? OR THERMAL? OR MELT? OR FUSE# OR FUSING# OR  
FUSION?) (A) (FORM## OR FORMING# OR MOLD?)

L16 1438 SEA FILE=HCA ABB=ON PLU=ON L13 AND L15

L17 308 SEA FILE=HCA ABB=ON PLU=ON L13 AND L14

L18 8 SEA FILE=HCA ABB=ON PLU=ON SUPERLITE? AND AZDEL

L19 6 SEA FILE=HCA ABB=ON PLU=ON L18 AND L15

L21 1636 SEA FILE=HCA ABB=ON PLU=ON L16 OR L17 OR L19

L22 344 SEA FILE=HCA ABB=ON PLU=ON HEADLINER# OR HEADLINING# OR  
HEAD(A) (LINER# OR LINING#)

L23 10 SEA FILE=HCA ABB=ON PLU=ON L22 AND L21

L24 435 SEA FILE=HCA ABB=ON PLU=ON HEAD(2A) (IMPACT? OR PROTECT?)

L26 4 SEA FILE=HCA ABB=ON PLU=ON L22 AND L24

L27 2 SEA FILE=HCA ABB=ON PLU=ON L26 AND L5

L28 12 SEA FILE=HCA ABB=ON PLU=ON L23 OR L27  
 L29 607795 SEA FILE=HCA ABB=ON PLU=ON PROTECT? OR SAFETY?  
 L30 9 SEA FILE=HCA ABB=ON PLU=ON L29 AND L22  
 L33 117 SEA FILE=HCA ABB=ON PLU=ON L15 AND L22  
 L34 QUE ABB=ON PLU=ON LAMEL? OR LAMIN? OR MULTILAYER? OR M  
 ULTICOAT? OR MULTIFILM? OR (MULTI OR MULTIPL? OR PLURAL?  
 OR THREE OR MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTI  
 FOLD? OR MANIFOLD? OR MULTITUD?) (2A) (LAYER? OR COAT? OR F  
 ILM?) OR THREEPLY? OR THREEPLIES OR THR  
 L35 69 SEA FILE=HCA ABB=ON PLU=ON L33 AND L34  
 L36 20 SEA FILE=HCA ABB=ON PLU=ON L35 AND L5  
 L42 305057 SEA FILE=HCA ABB=ON PLU=ON AUTO# OR AUTOMOBILE# OR CAR# OR  
 VEHICLE# OR TRUCK# OR VAN#  
 L43 7 SEA FILE=HCA ABB=ON PLU=ON L30 AND L42  
 L48 20 SEA FILE=HCA ABB=ON PLU=ON L36 AND L42  
 L51 33 SEA FILE=HCA ABB=ON PLU=ON L48 OR L43 OR L28

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L51 ANSWER 1 OF 33 HCA COPYRIGHT 2004 ACS on STN X  
 141:226477 HE high efficiency energy absorbing polyurethane foam for head  
 impact application. Ng, George; Schmidt, Herbert (Corporate Research and  
 Development, Woodbridge Foam Corp., USA). Conference Proceedings -  
 Polyurethanes Expo, Orlando, FL, United States, Oct. 1-3, 2003, 216-222.  
 Alliance for the Polyurethanes Industry: Arlington, Va. (English) 2003.  
 CODEN: 69EXJX.  
 AB Polyurethane (PUR) molded, energy absorbing (EA) foam is currently being  
 used as a passive **protection** device in **automobiles** to  
**protect** occupants from injury during a collision. **Safety**  
 regulation FMVSS201U is amended specifically to improve passenger  
**safety** relating to head impact in the areas of pillars and  
**headliners** within an **automobile**. These interior areas  
 are usually limited in space and do not allow sufficient part thickness  
 for energy-absorbing devices to function effectively. To meet  
**safety** requirements under such a space constraint, a highly  
 efficient, energy absorbing material is needed. This paper describes a  
 newly developed, high efficiency (HE), energy absorbing urethane-based  
 chemical. Through the study of the dynamic response of various types of EA  
 urethane foams at different load-bearing capacity and thickness, a model  
 was developed to depict the min. Head Injury Criteria (HICd) as function  
 of load, chemical and thickness. The application of the model enabled us to  
 design the most efficient urethane foam system to satisfy **safety**  
 impact requirements where space is limited. Energy absorbing efficiency  
 of HE is further optimized by urethane chemical such that it fulfills head  
 impact **safety** requirements of FMVSS201U regulation (HIC(d) <  
 1000) down to 0.8 in. foam thickness. Impact performance is compared  
 among HE, existing com. EA foams, and other competitive materials. The  
 results show that polyurethane based EA foam continues to be the material  
 of choice in occupant **protection** and energy management.  
 CC 38-3 (Plastics Fabrication and Uses)  
 ST energy absorbing polyurethane foam head impact **automobile** pillar  
**headliner**  
 IT **Automobiles**  
 (headlinings; study of high efficiency energy absorbing  
 polyurethane foam for head impact application)

L51 ANSWER 2 OF 33 HCA COPYRIGHT 2004 ACS on STN X  
 141:208534 Flame-resistant wool textiles and articles from such textiles.

Owens, Jerry W.; Burns, John J. (USA). U.S. Pat. Appl. Publ. US 2004166353 A1 20040826, 17 pp., Cont.-in-part of U.S. Ser. No. 542,514. (English). CODEN: USXXCO. APPLICATION: US 2003-652149 20030829. PRIORITY: US 2002-PV407228 20020829; US 2003-452514 20030602.

AB A flame retardant textile article is selected from furniture upholstery, window blinds, mattress coverings, modular panels, appliance seals, appliance insulation, clothing, automotive upholstery, automotive **head linings**, automotive interior side panel coverings and automotive trunk linings, the flame retardant textile article comprising at least one layer of wool felt comprising from 60 to 100% of animal wool, and the flame retardant textile having flame resistance to pass at least one of the British Standard 5852 crib 5, Tech. Bulletin 117 or Federal Motor **Vehicle Safety** Standard 302 flammability tests. Flame retardant textile structures may be used alone or in combination with covering layers to impart enhanced flame resistance in a wide array of applications. In particular, a textile structure may incorporate a wool felt containing at least 60% of animal wool, the remainder being any natural or synthetic fibers, such as polyester, polypropylene, nylon, aramid, glass, polybenzimidazole, polyacrylonitrile fibers, as well as blends.

IC ICM B32B023-04

NCL 428532000; 442320000; 442152000

CC 40-10 (Textiles and Fibers)

Section cross-reference(s): 38

IT Linings (nonrefractory)

(for **automobiles**; flame-resistant wool textiles and articles from such textiles)

IT **Automobiles**

(interiors, panels; flame-resistant wool textiles and articles from such textiles)

IT **Automobiles**

(parts; flame-resistant wool textiles and articles from such textiles)

L51 ANSWER 3 OF 33 HCA COPYRIGHT 2004 ACS on STN

141:175191 Automotive roof liner containing a foam core layer, a fiber-reinforced layer, and a decorative layer. Glunk, Bernd; Koeck, Gerhard (USA). U.S. Pat. Appl. Publ. US 2004157523 A1 20040812, 5 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-706616 20031112. PRIORITY: DE 2002-20217447 20021112.

AB A roof liner includes a core layer, a reinforcement layer arranged on at least one side of the core layer, and a decorative layer facing a passenger compartment. The reinforcement layer is formed from at least one plastic matrix and fibers. The core layer is formed from a foam material. The foam material and the plastic matrix present at least one polyolefin. The polyolefin of the foam material is **polypropylene** and the fibers are arranged non-directionally in the plastic matrix.

IC ICM B32B005-18

ICS B32B005-24; B32B027-12; B32B009-00

NCL 442370000; 428318400; 428319300; 442394000

CC 38-3 (Plastics Fabrication and Uses)

IT **Automobiles**

(**headlinings**; production of automotive roof liner containing foam core layer, fiber-reinforced layer, and decorative layer)

IT **Laminated** plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(production of automotive roof liner containing foam core layer, fiber-reinforced layer, and decorative layer)

IT Plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(**thermoplastics**, bonding agents, fiber-reinforced layer-containing; production of automotive roof liner containing foam core layer,

fiber-reinforced layer, and decorative layer)

IT 9002-88-4, Polyethylene **9003-07-0, Polypropylene**

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(plastic matrix, fiber-reinforced layer-containing; production of automotive roof liner containing foam core layer, fiber-reinforced layer, and decorative layer)

L51 ANSWER 4 OF 33 HCA COPYRIGHT 2004 ACS on STN **X**

141:90433 Fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncrystalline **thermoplastic** polymers and fiber assemblies therefrom and moldings therefrom. Ogawa, Masanori; Ito, Kuninori (Nagoya Yuka K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2004190156 A2 20040708, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-357534 20021210.

AB The fibers (A1) are prepared by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers, or the fibers comprise above A1 fibers having the crystalline **thermoplastic** polymers consisting of  $\geq 1$  type of **thermoplastic** polymers from **polypropylene**, poly(ethylene terephthalate), poly(butylene terephthalate), polyamides, and poly(phenylene sulfide), and having the noncryst. **thermoplastic** polymers from  $\geq 1$  type of polymers from polystyrene, PVC, polycarbonates, poly(phenylene ethers), modified poly(phenylene ethers), acrylonitrile-butadiene-styrene copolymer, and polyarylates, or the fibers comprise above A1 fibers having the polymer alloys containing rubber materials, or the fibers comprise above A1 fibers having the polymer alloys containing compatibilizers. The fiber assemblies (A2) comprise above A1 fibers, or the fiber assemblies comprise above A2 assemblies containing plant fibers, or the fiber assemblies comprise above A2 assemblies as webs or **laminated** webs, or the fiber assemblies comprise above A2 assemblies intertwined by the fiber-to-fiber bonding of the fibers using binders, or the fiber assemblies comprise above A2 assemblies as woven or knitted fabrics. The moldings are prepared by hot pressing above A2 assemblies to form moldings with a fixed form. The moldings are useful for **automobile** interior materials and ceilings. A blend comprising 40 parts nylon 6 and 60 parts polycarbonate and containing allyl ether-maleic anhydride copolymer compatibilizer was melt spun through a spinneret, drawn by blowing air onto the fibers to fibers with length .apprx.50 mm, and needle punched to give a nonwoven sheet. The nonwoven sheet was impregnated with aqueous 50% (solids) resol-type phenol-formaldehyde initial condensate (I) to form a nonwoven fabric with I content 20% (on nonwoven basis weight), dried, and hot pressed 30 s at 200° to give a molding 5 mm thick and showing tensile strength 28.4 MPa and bending strength 20.6 MPa.

IC ICM D01F006-90

ICS B32B005-26; D01F006-46; D04H001-54

CC 40-2 (Textiles and Fibers)

ST **thermoplastic** polymer alloy fiber nonwoven molding; nylon 6 polycarbonate blend fiber nonwoven molding; **polypropylene** polyphenylene ether blend fiber nonwoven molding; **automobile** interior material **thermoplastic** polymer alloy fiber nonwoven molding; ceiling **automobile thermoplastic** polymer alloy fiber nonwoven molding



IT Ethers, uses

- RL: MOA (Modifier or additive use); USES (Uses)  
(allyl, macromol. compds. with maleic anhydride, compatibilizers;  
fibers with improved moldability and heat resistance manufactured by melt  
spinning polymer alloys comprising crystalline **thermoplastic**  
polymers and noncryst. **thermoplastic** polymers)
- IT Polyesters, uses  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PYP (Physical process); TEM (Technical or engineered  
material use); PROC (Process); USES (Uses)  
(aromatic, blends with crystalline **thermoplastic** polymers, fiber;  
fibers with improved moldability and heat resistance manufactured by melt  
spinning polymer alloys comprising crystalline **thermoplastic**  
polymers and noncryst. **thermoplastic** polymers)
- IT Phenolic resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(binder; fibers with improved moldability and heat resistance manufactured  
by melt spinning polymer alloys comprising crystalline **thermoplastic**  
polymers and noncryst. **thermoplastic** polymers)
- IT Polyamides, uses  
Polythiophenylenes  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PYP (Physical process); TEM (Technical or engineered  
material use); PROC (Process); USES (Uses)  
(blends with noncryst. **thermoplastic** polymers, fiber; fibers  
with improved moldability and heat resistance manufactured by melt spinning  
polymer alloys comprising crystalline **thermoplastic** polymers and  
noncryst. **thermoplastic** polymers)
- IT Polycarbonates, uses  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PRP (Properties); PYP (Physical process); TEM (Technical or  
engineered material use); PROC (Process); USES (Uses)  
(blends with nylon 6, fiber; fibers with improved moldability and heat  
resistance manufactured by melt spinning polymer alloys comprising  
crystalline  
**thermoplastic** polymers and noncryst. **thermoplastic**  
polymers)
- IT Polyamides, uses  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PRP (Properties); PYP (Physical process); TEM (Technical or  
engineered material use); PROC (Process); USES (Uses)  
(blends with polycarbonates, fiber; fibers with improved moldability  
and heat resistance manufactured by melt spinning polymer alloys comprising  
crystalline **thermoplastic** polymers and noncryst.  
**thermoplastic** polymers)
- IT Plant fibers  
RL: PEP (Physical, engineering or chemical process); PYP (Physical  
process); TEM (Technical or engineered material use); PROC (Process); USES  
(Uses)  
(blends with polymer alloy fibers; fibers with improved moldability and  
heat resistance manufactured by melt spinning polymer alloys comprising  
crystalline **thermoplastic** polymers and noncryst.  
**thermoplastic** polymers)
- IT Polyamides, uses  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PRP (Properties); PYP (Physical process); TEM (Technical or  
engineered material use); PROC (Process); USES (Uses)  
(blends with styrene-modified poly(phenylene ether), fiber; fibers with  
improved moldability and heat resistance manufactured by melt spinning  
polymer alloys comprising crystalline **thermoplastic** polymers and

- noncryst. **thermoplastic** polymers)
- IT Synthetic rubber, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (butadiene-styrene-type, polymer alloys containing; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Alkadienes  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (conjugated, polymers, with aromatic compds., block, compatibilizers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Polyester fibers, uses  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fabrics, nonwoven, **laminates** with polymer alloy fibers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Hibiscus cannabinus  
 (fiber, blends with polymer alloy fibers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Polyesters, uses  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fiber, nonwoven, **laminates** with polymer alloy fibers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Polymer blends  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT **Laminated** materials  
 Molding of plastics and rubbers  
 Nonwoven fabrics  
 Textiles  
 (fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Synthetic polymeric fibers, uses  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT **Automobiles**  
 (**headlinings**; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline



- thermoplastic** polymers and noncryst. **thermoplastic** polymers for)
- IT Aromatic compounds  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (hydrogenated alkenyl, block copolymers with dienes, compatibilizers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT **Automobiles**  
 (interior parts; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers for)
- IT Rubber, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polymer alloys containing; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Polyoxyphenylenes  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polymers with styrene, blends with **polypropylene**, fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT Phenolic resins, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (resol, binders; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 26062-94-2, Poly(butylene terephthalate)  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 ("assumed monomers", blends with noncryst. polymers, fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 9003-35-4, Formaldehyde-phenol copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (binder; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 50-00-0D, Formaldehyde, polymers with alkylresorcinols 108-46-3D, Resorcinol, alkyl derivs., polymers with formaldehyde  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (binders; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 9002-86-2, PVC 9003-53-6, Polystyrene 9003-56-9, Acrylonitrile-butadiene-styrene copolymer  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (blends with crystalline **thermoplastic** polymers, fiber; fibers

- with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 24968-12-5, Poly(butylene terephthalate) 25212-74-2, Poly(phenylene sulfide)  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (blends with noncryst. **thermoplastic** polymers, fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 25038-54-4, Nylon 6, uses  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (blends with polycarbonates, fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 100-42-5D, Styrene, polymers with polyoxyphenylenes  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (blends with **polypropylene**, fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 25085-53-4, Isotactic **polypropylene** 32131-17-2, Nylon 66, uses  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (blends with styrene-modified poly(phenylene ether), fiber; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 108-31-6D, Maleic anhydride, polymers with allyl ethers  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (compatibilizers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- IT 25038-59-9, Poly(ethylene terephthalate), uses  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fiber, nonwoven, **laminates** with polymer alloy fibers; fibers with improved moldability and heat resistance manufactured by melt spinning polymer alloys comprising crystalline **thermoplastic** polymers and noncryst. **thermoplastic** polymers)
- L51 ANSWER 5 OF 33 HCA COPYRIGHT 2004 ACS on STN  
- 140:408202 Process for manufacturing dressing for inner linings of **automobiles**. Mirones, Gomez Ramon; Ariznavarreta, Anselmo (Grupo Antolin Ingenieria, S.A., Spain). Eur. Pat. Appl. EP 1419880 A1 20040519, 7 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK. (English). CODEN: EPXXDW. APPLICATION: EP 2002-380232 20021107.
- AB The process comprises applying ≥1 reinforcement layer onto surfaces

of an intermediate layer made of a semi-rigid fibrous blanket having a thermostable resin on each of its surfaces; covering one of the reinforcement layer with a **protective** sheet on one of the sides, to determine the concealed surface; applying onto the opposite side a decorative lining layer to determine the exposed surface; finally subjecting the bedding thus obtained to a shaping or molding process in a hot press, thereby also polymerizing the thermostable resin.

- IC ICM B32B005-06
- ICS B29B015-10; B29C043-18; B32B031-00; B60R013-02
- CC 40-10 (Textiles and Fibers)
- Section cross-reference(s): 38
- ST **automobile** inner lining dressing manuf; fiber blanket reinforcement layer laminate
- IT Textiles
  - (blankets, intermediate layer; process for manufacturing dressing for inner linings of **automobiles**)
- IT Reinforced plastics
  - RL: TEM (Technical or engineered material use); USES (Uses)
  - (fiber-reinforced; process for manufacturing dressing for inner linings of **automobiles**)
- IT **Automobiles**
  - (headlinings; process for manufacturing dressing for inner linings of **automobiles**)
- IT **Automobiles**
  - (interior parts; process for manufacturing dressing for inner linings of **automobiles**)
- IT Textiles
  - (laminated; process for manufacturing dressing for inner linings of **automobiles**)
- IT Lamination
  - (process for manufacturing dressing for inner linings of **automobiles**)
- IT Natural fibers
  - Synthetic fibers
  - RL: TEM (Technical or engineered material use); USES (Uses)
  - (process for manufacturing dressing for inner linings of **automobiles**)
- IT Paper
  - (**protective** sheet; process for manufacturing dressing for inner linings of **automobiles**)
- IT Glass fibers, uses
  - RL: TEM (Technical or engineered material use); USES (Uses)
  - (reinforcement layer; process for manufacturing dressing for inner linings of **automobiles**)
- of **automobiles**
- IT Plastics, uses
  - RL: TEM (Technical or engineered material use); USES (Uses)
  - (thermoplastics; process for manufacturing dressing for inner linings of **automobiles**)

- L51 ANSWER 6 OF 33 HCA COPYRIGHT 2004 ACS on STN X
- 139:365908 Separation of plastic materials from **automobile** interiors. Onari, Hideyuki; Machimoto, Hiroaki; Hashimoto, Yoshihiko (Kanegafuchi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003320532 A2 20031111, 22 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-128334 20020430.
- AB In recovery of plastic materials from **automobile** interiors consisting of (non)woven skins and plastic bases such as **thermoplastic** resin foams by separation of the fiber components in

processes comprising crushing of the interiors and wind separation of the fiber components of the crushed materials, dust separation apparatus with specified structures or their combinations are used. The recovered plastic materials and their extrusion molded products are also claimed. Thus, 30 kg of an **automobile** ceiling material containing modified poly(phenylene ether) foam and PET nonwoven fabric was crushed into 10-mm pieces, supplied to a dust separation apparatus, separated from the fiber components,

further crushed, supplied to the dust separation apparatus, and further separated from

the fiber components to recover 18.2 kg plastic pieces.

IC ICM B29B017-02

ICS B07B001-00; B07B004-08; B07B007-08; B07B009-00; B07B009-02;  
B07B013-08; B29K023-00; B29K067-00; B29K071-00

CC 38-2 (Plastics Fabrication and Uses)

Section cross-reference(s): 60

ST **automobile** interior polyphenylene ether recovery; wind sepn  
nonwoven plastic **laminate**

IT Styrene-butadiene rubber, uses

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(block, Tufprene 125; separation of plastic materials from  
**automobile** interiors)

IT Separation

(by wind; separation of plastic materials from **automobile**  
interiors)

IT Separators

(dust; separation of plastic materials from **automobile** interiors)

IT Polyester fibers, uses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fabrics, nonwoven; separation of plastic materials from **automobile**  
interiors)

IT Polyesters, uses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber, nonwoven fabrics; separation of plastic materials from  
**automobile** interiors)

IT **Automobiles**

(**headlinings**; separation of plastic materials from  
**automobile** interiors)

IT **Automobiles**

(interior parts; separation of plastic materials from **automobile**  
interiors)

IT Impact-resistant materials

(polystyrene; separation of plastic materials from **automobile**  
interiors for films containing)

IT Nonwoven fabrics

Recycling of plastics and rubbers

(separation of plastic materials from **automobile** interiors)

IT Polyoxyphenylenes

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(separation of plastic materials from **automobile** interiors)

IT Plastic foams

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(separation of plastic materials from **automobile** interiors)

IT Plastic films

(separation of plastic materials from **automobile** interiors for)

IT 25038-59-9, PET polymer, uses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber, nonwoven fabrics; separation of plastic materials from **automobile** interiors)

IT 106974-54-3, Butadiene-styrene graft copolymer

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(impact-resistant; separation of plastic materials from **automobile** interiors for films containing)

IT 9003-53-6, Polystyrene

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(separation of plastic materials from **automobile** interiors)

IT **9003-07-0, Polypropylene**

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(separation of plastic materials from **automobile** interiors)

IT 106107-54-4

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(styrene-butadiene rubber, block, Tufprene 125; separation of plastic materials from **automobile** interiors)

L51 ANSWER 7 OF 33 HCA COPYRIGHT 2004 ACS on STN

139:198568 Manufacture of recyclable lightweight rigid automobile ceilings. Sugi, Masahiro; Suzuki, Seiji (Mitsui Chemicals Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003245967 A2 20030902, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-49237 20020226.

AB The ceilings are manufactured by extrusion of expandable sheet-forming **compos.** comprising (A) 30-90 parts propylene polymers with MFR 1-70 g/10 min, (B) 10-70 parts propylene polymers crosslinked by 1-10 kGy  $\gamma$ -ray, (C) 0-20 parts (A + B + C = 100 parts) **glass fibers**, (D) 0.01-0.1 part radical generators, (E) 0.1-5 parts auxiliary crosslinking agents, and (F) 1-5 parts blowing agents, lining of the resulting nonexpanded sheets with backing materials, thermally expanding the sheets, placing skin materials on the surface of the expanded sheets before solidifying the sheets, and press molding. The ceilings are also claimed. Thus, **polypropylene** (MFR 25 g/10 min) 60, crosslinked **polypropylene** (irradiated with 4-kGy  $\gamma$ -ray, containing triallyl isocyanurate) 20, **glass fiber** master batch containing 30% maleated **polypropylene** 20, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexyne-3 0.05, divinylbenzene 1.0, tetrakis[methylene-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionato]methane 0.1, Ca stearate 0.1, and ADCA 3.0 parts were mixed, extruded through a T-die, backed with a polyester nonwoven fabric, **cut**, and heated to give an expanded sheet showing expansion ratio 5.8 and closed cells. A ceiling prepared by pressing the sheet had flexural rigidity 67 and 29 N at 23 and 80°, resp., in the machine direction and 50 and 22 N at 23

- and 87°, resp., in the transverse direction.
- IC ICM B29C051-08  
ICS B29C051-14; B60R013-02; B29K009-00; B29K023-00; B29K105-16
- CC 38-3 (Plastics Fabrication and Uses)
- ST automobile ceiling crosslinked **polypropylene** foam rigid
- IT Polyester fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(fabrics, nonwoven; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT Automobiles  
(**headlinings**; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT **Glass fibers**, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(maleated **polypropylene**-coated; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT Nonwoven fabrics  
(manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT Plastic foams  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT 1025-15-6, Triallyl isocyanurate 1321-74-0, Divinylbenzene, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(auxiliary crosslinking agent; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT **9003-07-0, Polypropylene**  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(crosslinked, cellular; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT 108-31-6D, Maleic anhydride, reaction products with **polypropylene**  
**9003-07-0D, Polypropylene**, maleated  
RL: MOA (Modifier or additive use); USES (Uses)  
(**glass fiber** coated with; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- IT 1068-27-5, 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexyne-3  
RL: CAT (Catalyst use); USES (Uses)  
(radical generator; manufacture of recyclable, lightwt., rigid automobile ceilings from propylene polymer **compns.**)
- L51 ANSWER 8 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 139:54113 Recycled moldings obtained by press molding and their manufacture.  
Hashimoto, Yoshihiko; Machimoto, Hiroaki; Hironari, Hideyuki (Kanegafuchi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003183413 A2 20030703, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-385128 20011218.
- AB The molding are manufactured by mixing automobile ceiling materials containing **glass fiber** milled to be average diameter ≤30 mm 20-100, milled paper with average diameter ≤30 mm 0-50, milled polyolefin film with average diameter ≤30 mm 0-80, and **thermoplastic** resins 0-80% and hot-pressing. Thus, a **compns.** containing 80 parts automobile ceiling waste containing mat containing 40% **glass**

**fiber** and 60% **polypropylene** fiber, urethane foam, polyethylene foam, and polyester knit and 20 parts waste paper was blended and pressed to give a board showing bending strength 16 MP and flexural modulus 1570 MPa.

- IC ICM C08J005-00  
ICS B09B003-00; B09B005-00; B29C043-02; C08K007-14; C08L001-00; C08L023-00; C08L101-00; B29K105-26
- CC 38-3 (Plastics Fabrication and Uses)
- ST recycled molding manuf automobile ceiling waste; milled **glass fiber** paper waste hot press; polyolefin milled **thermoplastic** resin hot press
- IT **Glass fibers**, uses  
Polypropene fibers, uses  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(automobile ceiling containing, recycling of; manufacture of recycled moldings obtained by press molding)
- IT Automobiles  
(**headlinings**, recycling of; manufacture of recycled moldings obtained by press molding)
- IT Plastics, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(**thermoplastics**; manufacture of recycled moldings obtained by press molding)
- IT 100-42-5D, Styrene, polymer **9003-07-0, Polypropylene**  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(recycling of; manufacture of recycled moldings obtained by press molding)

L51 ANSWER 9 OF 33 HCA COPYRIGHT 2004 ACS on STN

138:339489 Polyurethane foam shock absorbing materials useful for **automobile** interior parts. Horimatsu, Toshiyuki (Bridgestone Corporation, Japan). PCT Int. Appl. WO 2003037625 A1 20030508, 14 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP11129 20021028. PRIORITY: JP 2001-331038 20011029.

- AB The present invention relates to a shock absorbing material having a remarkably excellent shock absorbing performance, capable of absorbing impact energy added to the head part of an occupant inside a cabin at the time of collision of a **car**, and suitably used as a **head** part **protective** material to reduce a head part injury value, comprising a body part formed of hard polyurethane foam and a surface material higher in rigidity than the body part installed on the impact support surface of the body part, wherein the surface material is formed of synthetic resin, metal, alloy, glass, or ceramics of 0.5 to 5 mm in thickness, and the hard polyurethane foam is 10 to 80 mm in thickness, 0.25 to 2 MPa in 50% stress, and 40 to 200 kg/m<sup>3</sup> in d.
- IC ICM B32B027-40  
ICS B60R021-04; B60R013-02
- CC 38-3 (Plastics Fabrication and Uses)
- ST polyurethane foam shock absorber **automobile** interior part

- IT **Automobiles**  
(**headlinings**; polyurethane foam shock absorbing materials useful for **automobile** interior parts)
- IT **Automobiles**  
(interior parts; polyurethane foam shock absorbing materials useful for **automobile** interior parts)
- IT Shock absorbers  
(polyurethane foam shock absorbing materials useful for **automobile** interior parts)
- IT Laminated plastics, uses  
Plastic foams  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane foam shock absorbing materials useful for **automobile** interior parts)
- IT **9003-07-0, Polypropylene**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(surface layer; polyurethane foam shock absorbing materials useful for **automobile** interior parts)
- L51 ANSWER 10 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 137:155928 Fabrication method of **chopped** fiberglass **laminate** for automotive **headliners**. North, John M.; Grace, Frank C.; Albert, Michael P. (Harodite Industries, Inc., USA). U.S. US 6436854 B1 20020820, 8 pp., Cont.-in-part of U.S. 6,291,370. (English). CODEN: USXXAM. APPLICATION: US 2000-640236 20000816. PRIORITY: US 1999-387813 19990901.
- AB A **chopped** fiberglass containing **laminate** for fabricating sound absorbing moldable structures, such an automotive **headliner**, includes a nonwoven fine denier **thermoplastic** fiber scrim, a **thermoplastic** barrier film on one surface and a layer of **chopped** fiberglass and powder adhesive on the exposed surface of the barrier film. The **laminate** is combined with a foam core, fiberglass layer and decorative fabric on the fiberglass layer to provide a **composite** having elongation exceeding 30% in both machine and transverse directions for forming the **headliner**. An apparatus and method for forming the **laminate** are so disclosed.
- IC B32B027-04; B32B005-12
- NCL 442058000
- CC 38-3 (Plastics Fabrication and Uses)
- ST **multilayer laminate glass fiber** reinforced plastic **automobile headliner**; sound insulator nonwoven **laminate automobile headliner**
- IT Nonwoven fabrics  
Sound insulators  
(**chopped** fiberglass **laminate** for automotive **headliners**)
- IT **Laminated** plastics, uses  
Polyester fibers, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(**chopped** fiberglass **laminate** for automotive **headliners**)
- IT **Glass fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**chopped**; **chopped** fiberglass **laminate** for automotive **headliners**)
- IT Polyamides, uses



Polyesters, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(film; **chopped fiberglass laminate** for automotive **headliners**)

IT Reinforced plastics

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(**glass fiber-reinforced, chopped fiberglass; chopped fiberglass laminate** for automotive **headliners**)

IT **Automobiles**

(**headlinings; chopped fiberglass laminate** for automotive **headliners**)

IT 9002-88-4, Polyethylene 25085-53-4, Isotactic **polypropylene**

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(film; **chopped fiberglass laminate** for automotive **headliners**)

L51 ANSWER 11 OF 33 HCA COPYRIGHT 2004 ACS on STN 

137:110238 Manufacture of heat-sealable **laminates** for automotive interiors. Sandt, Richard L.; Kittel, Mark D.; Lum, Henry, Jr. (Avery Dennison Corporation, USA). PCT Int. Appl. WO 2002055295 A1 20020718, 44 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US49084 20011218. PRIORITY: US 2001-758092 20010110.

AB Title **laminates** comprises (I) a facestock having an upper surface and a lower surface, (II) a heat-activatable first adhesive layer underlying the lower surface of the facestock, and (III) a second adhesive layer overlying the upper surface of the facestock. The **laminates** is characterized by the absence of either an adhesion promoting layer or an abrasion-resistant transparent coating layer positioned between the upper surface of the facestock and the second adhesive layer. These heat-sealable **laminates** may be used in providing pictorial and/or print designs or messages (e.g., labels decals, etc.) that can be adhered to substrates (e.g., metal, plastic, leather, paper or textile substrates) such as automotive interior surfaces, hard plastic component parts, consumer durable goods, and the like.

IC ICM B32B007-12

ICS B32B009-00; B32B027-08; B42D015-00

CC 38-3 (Plastics Fabrication and Uses)

ST heat sealable pressure sensitive **laminates** automotive interior

IT Doors

(automotive; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Automobiles**

(dashboards; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Automobiles**

(**headlinings; manufacture of heat-sealable pressure-sensitive laminates** for automotive interiors)

IT Adhesives

(heat-sealable; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Clothing  
**Safety** devices  
(helmets; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Automobiles**  
(interior parts; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Appliances  
Carpets  
Floor coverings  
Inks  
**Laminated** materials  
Sporting goods  
Transparent films  
(manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Acrylic polymers, uses  
Epoxy resins, uses  
Ionomers  
Plastics, uses  
Polyamides, uses  
Polycarbonates, uses  
Polyesters, uses  
Polyolefins  
Polysulfones, uses  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Fuels  
(motor fuels, cap; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Automobiles**  
(panels; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Automobiles**  
(parts, visors; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Inks  
(radiation-curable; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT **Safety** devices  
(seat belts; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Belts  
(seat; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Upholstery  
(seats, automotive; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Leather  
Paper  
Textiles  
(substrate; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Metals, uses  
RL: TEM (Technical or engineered material use); USES (Uses)

(substrate; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Plastics, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (**thermoplastics**; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT Electric appliances  
 (vacuum cleaners; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 25103-74-6, Ethylene-methyl acrylate copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Emac SP 2268T; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 250267-65-3, Ampacet 10561  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV-stabilizer; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 442853-00-1, RCA 01302R  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (abrasion-resistant transparent coating; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 442868-71-5, CLB 04275F  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesion promoting primer; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 442868-94-2, Rad-Cure UV 1008  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesive layer coating; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 442869-01-4, Polybatch F 20  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (antiblock; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 9003-07-0, WRD 5-1057  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 9003-53-6 9003-54-7, Styrene-acrylonitrile copolymer 9004-34-6, Cellulose, uses 9010-77-9, Ethylene-acrylic acid copolymer 9010-79-1, Ethylene-propylene copolymer 9010-86-0, Ethylene-ethyl acrylate copolymer 9011-13-6, Styrene-maleic anhydride copolymer 9011-14-7, Polymethyl methacrylate 25014-41-9, Polyacrylonitrile 25053-53-6, Ethylene-methacrylic acid copolymer 25608-26-8, Ethylene-methacrylic acid copolymer sodium salt 28516-43-0, Ethylene-methacrylic acid copolymer zinc salt  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 250267-90-4, Polybatch White P 8555SD 442903-96-0, Polybatch PF 92D  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (pigment, core layer composition containing; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 471-34-1, Calcium carbonate, uses 13463-67-7, Titanium dioxide, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (pigment; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)

IT 252730-44-2, Ampacet 10061  
 RL: MOA (Modifier or additive use); USES (Uses)

- (slip additive; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)
- IT 24937-78-8, UE 631-04  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (upper **thermoplastic** layer containing; manufacture of heat-sealable pressure-sensitive **laminates** for automotive interiors)
- L51 ANSWER 12 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 136:135986 **Heat-moldable** lightweight rigid heat-resistant air-impermeable sound-insulating core materials and their use for automotive ceiling materials. Tanaka, Rikizo; Sugie, Yukihiro (Sekisui Chemical Co. Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002036405 A2 20020205, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-230887 20000731.
- AB Title core materials, which show good adhesion to skin materials, comprise (A) a mat-type base made of heat-resistant fibers bonded by a **thermoplastic** resin, (B) two heat-resistant rigid polymer layers having a melt temperature higher than the **thermoplastic** resin, and sandwiching the base, and (C) two heat-activated polymer layers overcoating each of the rigid polymer layer. In one the rigid polymer layer-heat-activated polymer **laminates**, pierced holes with 3-100 mm<sup>2</sup> are dispersed. Thus, a mat of glass fiber-reinforced **polypropylene** fiber was sandwiched by films of maleic anhydride-modified high-d. polyethylene (melt temperature 135°), sandwiched by two **laminates** made of nylon 6 (melt temperature 230°) layer and maleic acid-modified LLDPE (melt temperature 125°) layer, with one of the **laminates** being punched, and heated at 200° to give a 5.0 mm-thick core material with 850 g/m<sup>2</sup>. The material was press molded with a polyester nonwoven fabric to show good adhesion.
- IC ICM B32B003-24  
 ICS B32B027-12; B60R013-02
- CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 40
- ST **heat moldable** core automotive ceiling LLDPE; hot melt adhesive maleated LLDPE automotive ceiling; lightwt rigid automotive ceiling punched nylon; nylon **laminates** heat resistance automotive ceiling; air impermeable sound insulator automotive ceiling; glass fiber reinforced **polypropylene** fiber automotive ceiling; high density polyethylene binder automotive ceiling; **thermoplastic** binder heat resistance fiber automotive ceiling
- IT Reinforced plastics  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (glass fiber-reinforced; **heat-moldable** lightwt. rigid heat-resistant air-impermeable sound-insulating core materials for automotive ceiling materials)
- IT **Automobiles**  
 (headlinings; **heat-moldable** lightwt. rigid heat-resistant air-impermeable sound-insulating core materials for automotive ceiling materials)
- IT Heat-resistant materials  
**Laminated** plastic films  
 Sound insulators  
 (**heat-moldable** lightwt. rigid heat-resistant air-impermeable sound-insulating core materials for automotive ceiling materials)
- IT Glass fibers, uses

- RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (**heat-moldable** lightwt. rigid heat-resistant  
 air-impermeable sound-insulating core materials for automotive ceiling  
 materials)
- IT Linear low density polyethylenes  
 Polyamides, uses  
 Polypropene fibers, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (**heat-moldable** lightwt. rigid heat-resistant  
 air-impermeable sound-insulating core materials for automotive ceiling  
 materials)
- IT Adhesives  
 (hot-melt; **heat-moldable** lightwt. rigid  
 heat-resistant air-impermeable sound-insulating core materials for  
 automotive ceiling materials)
- IT Polyester fibers, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (nonwoven fabrics, skin layers; **heat-moldable**  
 lightwt. rigid heat-resistant air-impermeable sound-insulating core  
 materials for automotive ceiling materials)
- IT Nonwoven fabrics  
 (polyesters, skin layers; **heat-moldable** lightwt.  
 rigid heat-resistant air-impermeable sound-insulating core materials  
 for automotive ceiling materials)
- IT Binders  
 (**thermoplastic** resins, for heat-resistant fibers;  
**heat-moldable** lightwt. rigid heat-resistant  
 air-impermeable sound-insulating core materials for automotive ceiling  
 materials)
- IT Plastics, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (**thermoplastics**, binders, for heat-resistant fibers;  
**heat-moldable** lightwt. rigid heat-resistant  
 air-impermeable sound-insulating core materials for automotive ceiling  
 materials)
- IT 74-85-1D, Ethene, polymers with  $\alpha$ -olefins, maleated  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (LLDPE; **heat-moldable** lightwt. rigid heat-resistant  
 air-impermeable sound-insulating core materials for automotive ceiling  
 materials)
- IT 108-31-6D, Maleic anhydride, reaction products with high-d. polyethylene  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (binder, for heat-resistant fibers; **heat-moldable**  
 lightwt. rigid heat-resistant air-impermeable sound-insulating core  
 materials for automotive ceiling materials)
- IT 25085-53-4, Isotactic **polypropylene**  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (fibers; **heat-moldable** lightwt. rigid  
 heat-resistant air-impermeable sound-insulating core materials for  
 automotive ceiling materials)
- IT 110-16-7D, Maleic acid, reaction products with LLDPE 25038-54-4, Nylon  
 6, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**heat-moldable** lightwt. rigid heat-resistant air-impermeable sound-insulating core materials for automotive ceiling materials)

IT 9002-88-4D, Polyethylene, maleated

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(high-d., binder, for heat-resistant fibers; **heat-moldable** lightwt. rigid heat-resistant air-impermeable sound-insulating core materials for automotive ceiling materials)

L51 ANSWER 13 OF 33 HCA COPYRIGHT 2004 ACS on STN

134:101721 Development of new glass mat **thermoplastic composites** for interior applications. Haque, Enamul; Peterson, Terry; Bassett, Walt (Technology Center, AZDEL, Inc., Shelby, NC, 28150, USA). Marketing/Technical Sessions of the Composites Institute's International Composites Expo '99, Cincinnati, OH, United States, May 10-12, 1999, 15A/1-15A/6. SPI Composites Institute: Harrison, N. Y. (English) 1999. CODEN: 69AFIQ.

AB A review with 4 refs. Glass Mat **Thermoplastic** (GMT)

**composites** are widely used in structural applications in the automotive industry. Typically, the glass mat **thermoplastic composites** are flow-molded in a compression press and weighs 4000 to 4700 g per square meters. In this paper, we present the development of low weight (700 to 2000 g per square meters) long fiber GMT **composites** for applications in **headliner** and other interior components. The new **thermoplastic headliner** materials offer several advantages: low weight and cost, high rigidity at elevated temperature and high humidity, fast cycle time, recyclability, design flexibility, cleaner environmentally friendly process, and reduced raw material inventory. In this paper, we discuss the mech. and acoustical performance of **polypropylene** based long fiber **thermoplastic composite headliner** materials.

The design flexibility and improved processability of GMT **headliners** over current **headliner** materials using **glass fiber** reinforced polyurethane foam and corrugated cardboard will also be discussed. In addition, examples of various applications using low weight **thermoplastic composites** will be presented.

CC 38-0 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

ST **polypropylene glass fiber** mat

**composite headlining** review

IT **Glass fibers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(**chop** fiber web; new glass mat **thermoplastic composites** for interior applications)

IT Automobiles

(**headlinings**; new glass mat **thermoplastic composites** for interior applications)

IT 9003-07-0, **Polypropylene**

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(new glass mat **thermoplastic composites** for interior applications)

L51 ANSWER 14 OF 33 HCA COPYRIGHT 2004 ACS on STN


133:239350 **Polypropylene** fiber moldings for automobile ceilings with

improved oxidation-induced heat evolution resistance and acidic gas resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants and **glass fibers**. Matsumura, Toru; Hata, Toshikuni; Kobayashi, Kenji; Nishimura, Junichi (Nippon Polychemicals Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000256953 A2 20000919, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-60236 19990308.

- AB The moldings comprise **polypropylene** (I) fibers spun from **comps.** comprising I and 0.01-1 part sulfur-type antioxidants or dialkyl thiopropionates, 0.01-1 part phenol-type antioxidants or 1,3,5-tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (II), and 0.01-1 part phosphorus-type antioxidants or bis(2,6-di-tert-butyl-4-methylphenyl) pentaerythritol diphosphite (III) per 100 parts I, and 0.01-0.5 part neutralizing agents or neutralizing agents comprising metal soaps and/or hydrotalcites per 100 parts I, and **glass fibers** bonded to I fibers. A **composition** containing I 100, II 0.5, III 0.15, distearyl thiopropionate 0.2, and calcium stearate 0.10 part was pelletized, melt spun through a spinneret at 220°, drawn at heater temperature 130°, and **cut**. A 1:1 blend of the **cut** fibers and **glass fibers** was made into a carded web, needlepunched, and pressed 5 s at 210° to give a mat exhibiting time required for initiation of oxidation-induced heat evolution at 220° 15 min and showing no discoloration on exposing the mat to combustion gases containing nitrogen oxides and sulfur oxides for 60 min.
- IC ICM D04H001-54  
ICS D01F006-06; D04H001-42
- CC 40-10 (Textiles and Fibers)
- ST **polypropylene** fiber nonoven oxidn heat resistance; **glass fiber polypropylene** fiber blend nonwoven oxidn heat resistance; automobile ceiling **polypropylene** fiber nonoven oxidn heat resistance; acidic gas resistance **polypropylene** fiber nonwoven
- IT Gases  
(acidic, resistance to; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compds., phenol compds. and phosphorus compds. as antioxidants)
- IT **Glass fibers**, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(blends with polypropene fibers; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance and acidic gas resistance)
- IT Automobiles  
(**headlinings**; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants for)
- IT Minerals, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(hydrotalcite-group, neutralizing agents; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compds., phenol compds. and phosphorus compds. as antioxidants)
- IT Soaps  
RL: MOA (Modifier or additive use); USES (Uses)

(neutralizing agents; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compds., phenol compds. and phosphorus compds. as antioxidants)

- IT Antioxidants  
Mats  
Nonwoven fabrics  
(**polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants)
- IT Polypropene fibers, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(**polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants)
- IT Heat-resistant materials  
(**polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants for)
- IT Oxidation  
(resistance to; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compds., phenol compds. and phosphorus compds. as antioxidants)
- IT 693-36-7 40601-76-1 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl) pentaerythritol diphosphite  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(antioxidant; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants)
- IT 25085-53-4, Isotactic **polypropylene**  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(fiber; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compound antioxidants, phenol compound antioxidants and phosphorus compound antioxidants)
- IT 1592-23-0, Calcium stearate  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(neutralizing agent; **polypropylene** fiber moldings for automobile ceilings with improved oxidation-induced heat resistance comprising **polypropylene** fibers containing sulfur compds., phenol compds. and phosphorus compds. as antioxidants)

- L51 ANSWER 15 OF 33 HCA COPYRIGHT 2004 ACS on STN 
- 133:44697 Foam **laminates** sheets and moldings for **automobile** interior parts having reduced noise in making a sharp turn. Ohuchi, Manabu (Kanegafuchi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000168460 A2 20000620, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-175982 19990622. PRIORITY: JP 1998-277466 19980930.
- AB Title sheets comprise a heat resistant resin foam sheets, a **thermoplastic** nonfoamed layer, and a polyolefin layer. Thus, a **laminates** having a nonfoamed layer (containing modified polyphenylene



ether 30, polystyrene 64, and rubber 6%), a foamed layer (containing 40% modified polyphenylene ether and 60% polystyrene), a high-impact polystyrene nonfoamed layer, and a two layered film (PAC 4) of an ethylene-vinyl acetate copolymer adhesive and a middle-d. polyethylene was molded and furnished on **automobile** ceiling showing no deformation at 85°.

- IC ICM B60R013-02  
ICS B32B005-18; B32B027-32
- CC 38-3 (Plastics Fabrication and Uses)
- ST foam **lamine**te sheet **automobile** interior part;  
polyolefin **lamine**te **automobile** ceiling; polyphenylene  
ether foam sheet **automobile** interior part; polystyrene  
**lamine**te sheet **automobile** interior part
- IT **Lamine**ted plastics, uses  
Plastic foams  
Polyolefins  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(foam **lamine**te sheets and moldings for **automobile**  
interior parts having reduced noise in making a sharp turn)
- IT **Automobiles**  
(**headlinings**; foam **lamine**te sheets and moldings for  
**automobile** interior parts having reduced noise in making a  
sharp turn)
- IT Synthetic rubber, uses  
RL: DEV (Device component use); POF (Polymer in formulation); PRP  
(Properties); USES (Uses)  
(polystyrene blends, impact-resistant; foam **lamine**te sheets  
and moldings for **automobile** interior parts having reduced  
noise in making a sharp turn)
- IT Impact-resistant materials  
(rubber-styrene blends; foam **lamine**te sheets and moldings for  
**automobile** interior parts having reduced noise in making a  
sharp turn)
- IT 24937-78-8, Ethylene-vinyl acetate copolymer  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(adhesive; foam **lamine**te sheets and moldings for  
**automobile** interior parts having reduced noise in making a  
sharp turn)
- IT 9003-53-6, Polystyrene 9011-13-6, Styrene-maleic anhydride copolymer  
25667-40-7D, Poly(1,4-oxyphenylene), modified  
RL: DEV (Device component use); POF (Polymer in formulation); PRP  
(Properties); USES (Uses)  
(foam **lamine**te sheets and moldings for **automobile**  
interior parts having reduced noise in making a sharp turn)
- IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene  
276253-38-4, Sanitect PAC 3 276253-39-5, Sanitect PAC 4  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(foam **lamine**te sheets and moldings for **automobile**  
interior parts having reduced noise in making a sharp turn)
- L51 ANSWER 16 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 131:32636 High efficiency energy absorption olefinic foam. Gandhe, Gajanan  
V.; Tusim, Martin H. (The Dow Chemical Company, USA). Society of  
Automotive Engineers, [Special Publication] SP, SP-1448(Polymer Composites  
and Polymeric Materials for Energy Management and Occupant Safety), 1-4  
(English) 1999. CODEN: SAESA2. ISSN: 0099-5908. Publisher: Society of  
Automotive Engineers.
- AB The federal regulation for **head impact**  
**protection** for upper interior components (FMVSS 201U) of

**automobiles** has led to the use of a variety of foam materials in interior trim pillar and **headliner** reinforcement applications. Polyurethane foams and expanded bead foams are some of the commonly used foams in these applications. However, the low energy absorption efficiency (35% - 55%) of the current foams requires the use of 20 mm - 40 mm of packaging space to integrate the countermeasures that make it possible to meet the regulations. A newly developed high efficiency **polypropylene** and olefin based foam, Strandfoam, Dow Chemical Co., meets the performance requirements at a reduced packaging space. A combination of honeycomb cellular structure and superior mech. properties provides the much needed higher efficiency (80% - 90%) of the olefinic foam. The foam architecture and performance benefits for many interior applications, such as energy absorbing countermeasures in pillar trim, **headliners**, and door panels are outlined. Performance comparisons with current competitive foams for **head impact** applications are also presented.

CC 38-3 (Plastics Fabrication and Uses)

ST **polypropylene** honeycomb foam impact **protection**; olefin foam impact energy absorption regulation; **automobile** impact **protection** Strandfoam **polypropylene**

IT Doors

(automotive; **polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

IT **Automobiles**

(bodies; **polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

IT **Automobiles**

(dashboards; **polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

IT Plastic foams

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(honeycomb; **polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

IT Honeycomb structures

Impact strength

Impact-resistant materials

(**polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

IT 9003-07-0, **Polypropylene**

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(Strandfoam; **polypropylene** honeycomb foam for efficient impact **protection** for upper interior components of **automobiles**)

L51 ANSWER 17 OF 33 HCA COPYRIGHT 2004 ACS on STN

129:150055 Fibrous moldings comprising polypropene fibers and inorganic fibers with improved resistance to oxidation and heat evolution. Kuramochi, Hitoshi; Taniguchi, Masahiko (Chisso Corp., Japan). Jpn. Kokai Tokkyo Koho JP 10183453 A2 19980714 Heisei, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-354318 19961219.

AB The moldings comprise fibers spun from **compns.** containing **polypropylene** (I) and tris(4-tert-butyl-3-hydroxy-2,6-

dimethylbenzyl) isocyanurate (II) and pentaerythritol tetrakis(3-alkylthiopropionates) per 100 parts I and inorg. fibers bonded to I fibers. The moldings are useful for automobile ceilings (no data). A **composition** containing crystalline I 100, II 0.3, and pentaerythritol tetrakis(3-laurylthiopropionate) 0.5 part was pelletized, melt spun at 250°, drawn at 115°, and **cut** to give fibers with diameter 28 µm. A 1:1 blend of this fiber and **glass fibers** with diameter 10 µm was made into a needlepunched mat and pressed at 200° to give a mat exhibiting time required for maximum temperature 4 h.

IC ICM D04H001-54

CC ICS D04H001-54; D01F006-46; C08K005-3477; C08K005-36; C08L023-12

40-10 (Textiles and Fibers)

Section cross-reference(s): 57

ST **polypropylene** fiber inorg fiber blend nonwoven; **glass**

**fiber** polypropene fiber blend nonwoven; heat resistance synthetic nonwoven; oxidn resistance synthetic nonwoven; automobile ceiling synthetic nonwoven heat resistance

IT **Glass fibers**, uses

Polypropene fibers, uses

Synthetic fibers

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fibrous moldings comprising polypropene fibers and inorg. fibers with improved resistance to oxidation and heat evolution)

IT Automobiles

(**headlinings**; fibrous moldings comprising polypropene fibers and inorg. fibers with improved resistance to oxidation and heat evolution for)

IT 25085-53-4, Isotactic **polypropylene**

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber; fibrous moldings comprising polypropene fibers and inorg. fibers with improved resistance to oxidation and heat evolution)

L51 ANSWER 18 OF 33 HCA COPYRIGHT 2004 ACS on STN

126:264945 Glass-fiber-containing nonwoven **thermoplastic** polymer web and process for preparing it. Meeker, Brian L. (Esfi Acquisition, Inc., USA). Can. Pat. Appl. CA 2176863 AA 19970125, 22 pp. (English). CODEN: CPXXEB. APPLICATION: CA 1996-2176863 19960517. PRIORITY: US 1995-506421 19950724.

AB The title webs useful for molding into **automobile head**

**liners** or relatively rigid panels (no data) are prepared by providing a nonwoven polymer (e.g., polyethylene) web, applying a layer of glass fibers onto the nonwoven polymer web, and encapsulating the glass fibers into the nonwoven polymer web utilizing heat and pressure. Alternatively, the webs are prepared by providing a first nonwoven polymer web, applying a layer of glass fibers onto the first nonwoven polymer web, superposing over the layer of glass fibers a second nonwoven polymer web, and **laminating** together the assemblage to encapsulate the glass fibers.

IC ICM B32B017-04

CC 38-2 (Plastics Fabrication and Uses)

Section cross-reference(s): 40

ST glass fiber encapsulation polymer web; **lamination** glass fiber

polymer nonwoven; reinforced **thermoplastic** glass fiber;

polyethylene glass fiber reinforced

IT Acrylic fibers, uses

Acrylic fibers, uses

- Synthetic polymeric fibers, uses  
 Synthetic polymeric fibers, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (acrylonitrile-butadiene-styrene, nonwoven webs; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Fluoropolymers, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (belt press coating; of apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Presses  
 (belt; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Polycarbonates, uses  
 Polycarbonates, uses  
 Polyoxyalkylenes, uses  
 Polyoxyalkylenes, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (fiber, nonwoven webs; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Polyamide fibers, uses  
 Polyurethane fibers  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (nonwoven webs; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Encapsulation  
**Lamination**  
 (of glass fibers by using nonwoven **thermoplastic** polymer webs)
- IT Synthetic polymeric fibers, uses  
 Synthetic polymeric fibers, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polycarbonates, nonwoven webs; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Synthetic polymeric fibers, uses  
 Synthetic polymeric fibers, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polyoxyalkylenes, nonwoven webs; apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT Glass fibers, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (reinforcement; glass-fiber-containing nonwoven **thermoplastic** polymer web and process for preparing it)
- IT Nonwoven fabrics  
 (**thermoplastic**; glass-fiber-containing nonwoven **thermoplastic** polymer web and process for preparing it)
- IT 9002-84-0, Teflon  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (belt press coating; of apparatus for **lamination** or encapsulation of glass fibers in nonwoven **thermoplastic** polymer webs)
- IT 9002-88-4, Polyethylene 9003-56-9, ABS polymer 25085-53-4, Isotactic **Polypropylene**

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (nonwoven webs; glass-fiber-containing nonwoven **thermoplastic** polymer web and process for preparing it)

L51 ANSWER 19 OF 33 HCA COPYRIGHT 2004 ACS on STN

126:145362 Manufacture of lightweight heat-resistant **glass**

**fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings. Uchida, Yutaka; Naruse, Shinpei; Shimazaki, Michio (Hayashi Gijutsu Kenkyusho Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08325914 A2 19961210 Heisei, 4 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1995-152569 19950526.

AB The substrates are manufactured by continuously blowing glass long fibers and **thermoplastic** resin long fibers from different feeders onto a conveyor to form mats, sandwiching the mats between nonwoven fabrics, and pressing the **laminates**. The substrates are useful for **automobile** interior materials. Glass long fibers and **polypropylene** (I) long fibers were sep. blown onto a moving conveyor to form a mat. The mat was sandwiched between 2 spunbonded I fiber nonwoven fabrics, hot pressed to form a substrate with thickness 6.0 mm and basis weight 400 g/m<sup>2</sup>, and molded to give a molding exhibiting good stiffness and suitable for **automobile** ceilings.

IC ICM D04H003-00

ICS D04H003-00; B32B005-26; B60R013-02; D04H003-14; D06M017-00

CC 40-10 (Textiles and Fibers)

ST **glass fiber** nonwoven substrate moldable;  
**polypropylene fiber glass fiber**  
**composite** nonwoven; **automobile** interior **glass**  
**fiber** nonwoven molding; ceiling **automobile glass**  
**fiber** nonwoven molding

IT **Automobiles**

(**headlinings**; manufacture of lightweight heat-resistant **glass fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings for)

IT **Automobiles**

(interior parts, (no data); manufacture of lightweight heat-resistant **glass fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings for)

IT Molding of plastics and rubbers

Nonwoven fabrics

(manufacture of lightweight heat-resistant **glass fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings)

IT **Glass fibers, uses**

Polypropene fibers, uses

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(manufacture of lightweight heat-resistant **glass fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings)

IT 25085-53-4, Isotactic **polypropylene**

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber; manufacture of lightweight heat-resistant **glass fiber-thermoplastic** fiber **composite** nonwoven substrates for moldings)

L51 ANSWER 20 OF 33 HCA COPYRIGHT 2004 ACS on STN

125:302734 **Multilayer automobile** interior parts. Fukuda,

Masateru (Ikeda Bussan Co, Japan). Jpn. Kokai Tokkyo Koho JP 08224798 A2 19960903 Heisei, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-59915 19950222.

- AB The title parts, with lightwt. and high rigidity, are manufactured by **laminating** surface layers (e.g., glass fiber paper and **polypropylene** film) on a **thermoplastic** resin fibrous sheet (e.g., of **polypropylene** fibers) and press molding.
- IC ICM B29D009-00
- ICI B29K101-12, B29K105-12, B29L031-58
- CC 38-3 (Plastics Fabrication and Uses)
- ST **automobile** interior part **polypropylene laminate**; glass fiber paper **polypropylene laminate**
- IT Plastics, **laminated**  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(**multilayer automobile** interior parts)
- IT Polypropene fibers, uses  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(nonwoven sheets; **multilayer automobile** interior parts)
- IT Glass fibers, uses  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(paper; **multilayer automobile** interior parts)
- IT Molding of plastics and rubbers  
(compression, **multilayer automobile** interior parts)
- IT **Automobiles**  
(**headlinings**, **multilayer automobile** interior parts)
- IT **Automobiles**  
(interior parts, **multilayer automobile** interior parts)
- IT **9003-07-0, Polypropylene**  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(**multilayer automobile** interior parts)
- L51 ANSWER 21 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 125:250334 Expandable synthetic fibers and manufacture of lightweight mats therefrom. Kodama, Masahiro (Ikeda Bussan Co, Japan). Jpn. Kokai Tokkyo Koho JP 08199429 A2 19960806 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-25969 19950120.
- AB The title mats are prepared by laying a mat of fibers consisting of a core comprising **thermoplastic** polymers and blowing agents and a sheath comprising **thermoplastic** polymers and containing no blowing agents in the cavity of a mold, spraying hot air or steam onto the mat to cause expansion of the mat, and cooling the mat in the mold. The mats are useful for automobile interior materials. A needlepunched nonwoven mat comprising 6:4 blend of spun fibers from a **composition** containing crosslinked **polypropylene** (I) and 5% azodicarbonamide as the core and uncrosslinked I as the sheath and **glass fibers** was heated in a mold to give a lightweight expanded mat suitable as automobile ceilings.
- IC ICM D01F008-04  
ICS D04H001-42
- CC 40-10 (Textiles and Fibers)
- IT **Glass fibers**, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(blends with expandable polypropene fibers; manufacture of lightweight nonwoven mats)

IT Automobiles

(**headlinings**, manufacture of lightweight nonwoven mats from expandable synthetic fibers for)

IT 25085-53-4, Isotactic **polypropylene**

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber, bicomponent, expandable, **glass fiber** blend; manufacture of lightweight nonwoven mats)

L51 ANSWER 22 OF 33 HCA COPYRIGHT 2004 ACS on STN

125:224528 Heat-resistant synthetic fiber felts for **automobile** interiors and their manufacture by simplified process. Nishikino, Takashi (Ikeda Bussan Co, Japan). Jpn. Kokai Tokkyo Koho JP 08188947 A2 19960723 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-17499 19950106.

AB The title felts are prepared by needlepunching nonwoven webs of fibers consisting of a core comprising **thermoplastic** polymers (A) having high m.p. and **thermoplastic** polymers (B) similar to A and having m.p.  $\geq 150^\circ$  and smaller than the m.p. of A and heating the felts above the m.p. of B but below the m.p. of A and optionally impregnating the felts with thermosetting resins. The felts are useful for ceilings, door trims, and trunk room mats for **automobiles**. Webs of spun fibers from a polyester with m.p.  $250^\circ$  and a polyester with m.p.  $155^\circ$  as the sheath with core-sheath ratio 60:40 and having degree of hollowness 15% were needlepunched, heated at air temperature  $200^\circ$ , and pressed to give a felt with heat distortion after 16 h at  $80^\circ$  5 mm (at load 100 g) and 9 mm (at load 200 g). The felt was heated at  $180^\circ$  and pressed together with polyethylene sheet as the middle layer and **polypropylene** nonwoven fabric to give an **automobile** ceiling.

IC ICM D04H001-08

ICS D01D005-34; D01F008-14

CC 40-10 (Textiles and Fibers)

ST polyester fiber felt heat resistant; polyamide fiber felt heat resistant; felt synthetic fiber heat resistant; **automobile** interior polyester fiber felt; door trim **automobile** polyester fiber felt; ceiling **automobile** synthetic fiber felt; carpet backing polyester fiber felt

IT Polyamide fibers, uses

Polyester fibers, uses

Synthetic fibers, polymeric

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(bicomponent; manufacture of heat-resistant felts for **automobile** interiors by simplified process)

IT Heat-resistant materials

(manufacture of synthetic fiber felts for **automobile** interiors)

IT **Automobiles**

(**headlinings**, heat-resistant synthetic fiber felts for)


IT **Automobiles**

(interiors, heat-resistant synthetic fiber felts for)


IT **Polypropylene** fibers

RL: TEM (Technical or engineered material use); USES (Uses)

(nonwoven, **lamination** with heat-resistant polyester felts for

- automobile interiors)
- IT 9002-88-4, Polyethylene  
RL: TEM (Technical or engineered material use); USES (Uses)  
(binder; for **lamination** of heat-resistant polyester felts with nonwovens or carpets)
- IT 25085-53-4, Isotactic **polypropylene**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(fiber, nonwoven; **lamination** with heat-resistant polyester felts for **automobile** interiors)
- L51 ANSWER 23 OF 33 HCA COPYRIGHT 2004 ACS on STN 
- 125:35341 Manufacture of hollow **thermoplastic** resin sheets for interior decoration. Niiguni, Hideo; Ozeki, Hisakimi; Ario, Toshuki; Shirai, Katsuyuki; Naka, Takashi (Toyoda Boshoku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08085147 A2 19960402 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-95130 19950420. PRIORITY: JP 1994-167200 19940719.
- AB The title sheets (e.g., **polypropylene** corrugated sheet) optionally with decorative surface layers (e.g., of polyester nonwoven) are capable to press molding or vacuum forming while blowing air into hollow part at a temperature higher than the softening temperature of the resin to form **automobile** ceiling, etc. with good appearance.
- IC ICM B29C051-08  
ICS B29B011-06; B29C051-10; B60R013-02
- ICI B29K101-12, B29L024-00, B29L031-58
- CC 38-2 (Plastics Fabrication and Uses)  
Section cross-reference(s): 48
- ST **polypropylene** corrugated sheet **automobile** ceiling; vacuum forming **polypropylene** corrugated sheet; press molding **polypropylene** corrugated sheet; polyester nonwoven surface **polypropylene** corrugated sheet
- IT Plastics, **laminated**  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT Polyester fibers, uses  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(nonwovens; manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT Molding of plastics and rubbers  
(compression, manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT Building materials  
(corrugated boards, manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT **Automobiles**  
(headlinings, manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT Molding of plastics and rubbers  
(vacuum forming, manufacture of hollow **thermoplastic** resin sheets for interior decoration)
- IT **9003-07-0, Polypropylene**  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
(manufacture of hollow **thermoplastic** resin sheets for interior decoration)



- L51 ANSWER 24 OF 33 HCA COPYRIGHT 2004 ACS on STN 
- 124:263094 Lining sheet for **vehicle** ceiling and **laminates** comprising the lining sheet. Kohyama, Masaki; Uchiyama, Akira; Watanabe, Yuji (Mitsui Petrochemical Industries, Ltd., Japan). Eur. Pat. Appl. EP 699522 A1 19960306, 15 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1995-306141 19950901. PRIORITY: JP 1994-211577 19940905.
- AB A lining sheet for a **vehicle** ceiling is formed from a resin composition comprising a poly(1-butene), an olefin **thermoplastic** elastomer and a **polypropylene** resin in specific amts., the olefin **thermoplastic** elastomer being a partially crosslinked **thermoplastic** elastomer obtained by dynamically heat treating a mixture of an ethylene- $\alpha$ -olefin copolymer rubber, a **polypropylene** resin and optionally a polyethylene resin in the presence of an organic peroxide. **Laminates** comprise this lining sheet as a surface layer and a polyolefin foam layer.
- IC ICM B32B027-32  
ICS C08J005-18; C08L023-16; B60R013-02
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37
- ST **vehicle** ceiling lining sheet **laminates**; polybutene **polypropylene laminates** lining sheet; olefin **thermoplastic** elastomer lining sheet; crosslinked polyolefin **vehicle** ceiling lining; polyethylene olefin **thermoplastic** elastomer sheet
- IT Crosslinking  
(**thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT Plastics, **laminated**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT Rubber, synthetic  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(alkene-ethylene, **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT Rubber, synthetic  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(ethylene-ethylidenenorbornene-propene, **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT **Automobiles**  
(**headlinings**, **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT Alkenes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
( $\alpha$ -, polymers, with ethylene, rubber; **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT 25038-36-2  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(rubber; **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)
- IT 74-85-1D, Ethylene, polymers with  $\alpha$ -olefins

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(rubber; **thermoplastic** polyolefin lining sheets and **laminates** for **vehicle** ceilings)

- IT 9002-88-4, Polyethylene **9003-07-0, Polypropylene**  
 9003-28-5, Poly(1-butene) 25087-34-7, 1-Butene-ethylene copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (thermoplastic polyolefin lining sheets and **laminates** for **vehicle** ceilings)

L51 ANSWER 25 OF 33 HCA COPYRIGHT 2004 ACS on STN

122:57789 **Automobile** interior decoration sheets and their molding method. Kokoku, Shigeaki; Arinaga, Kazuo (Ikeda Bussan Co, Japan). Jpn. Kokai Tokkyo Koho JP 06190982 A2 19940712 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-358327 19921226.

AB The title sheets comprise a glass fiber-reinforced **thermoplastic** (e.g., polyethylene, **polypropylene**) base sheet, a low-m.p. film (e.g., of polyethylene, **polypropylene**) and a surface layer (e.g., slab urethane-**laminated** tricot) **laminated** on 1 side, and a high-m.p. film (e.g., polyamide, PET) **laminated** on the other side and are press molded to ceilings, etc. and fixed crip bases on the high-m.p. film surface by hot press.

IC ICM B32B027-04

ICS B29C039-10; B29C051-14; B29C065-48; B60R013-02

ICI B29L031-58

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 48

ST **automobile** interior decoration polyolefin **laminates**;  
 polyamide **laminates** **automobile** interior decoration; PET  
**laminates** **automobile** interior decoration; polyurethane  
 tricot **laminates** interior decoration

IT Plastics, **laminated**

Polyamides, uses

Urethane polymers, uses

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(**automobile** interior decoration sheets and their molding method)

IT Glass fibers, uses

RL: MOA (Modifier or additive use); USES (Uses)

(**automobile** interior decoration sheets and their molding method)

IT Textiles

(tricot; **automobile** interior decoration sheets and their molding method)

IT **Automobiles**

(**headlinings**, **automobile** interior decoration sheets and their molding method)

IT **Automobiles**

(interiors, **automobile** interior decoration sheets and their molding method)

IT 9002-88-4, Polyethylene **9003-07-0, Polypropylene**

25038-59-9, PET polyester, uses

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(**automobile** interior decoration sheets and their molding method)



- L51 ANSWER 26 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 113:60960 Moldable sound insulating **laminates** for **automobile** ceilings. Nakamura, Masanori; Yamaji, Katsuhiko (Sekisui Chemical Co. Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02080653 A2 19900320 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-229636 19880913.
- AB The title **laminates** with high bending strength are prepared by sandwiching mats comprising mainly inorg. fibers between 2 **thermoplastic** sheets with deffernet m.p. and pressing the **laminate** at >m.p. of the higher m.p. sheet. Thus, a needlepunched mat was prepared from 65 parts glass fibers and 35 parts polyethylene fibers, sandwiched between HDPE film (m.p. 135°) and **polypropylene** film (m.p. 165°), and pressed at 190° to give a **laminate** with bending strength 42 kg/cm2 and sound absorption 64%, vs. 27 and 42, resp., for a **laminate** with the HDPE on the both sides.
- IC ICM D04H001-60  
ICS B32B027-12; D04H001-42
- ICA B60R013-02
- CC 38-3 (Plastics Fabrication and Uses)
- ST glass fiber **laminate** sound insulator; polyethylene **laminate** sound insulator; **polypropylene laminate** sound insulator; **automobile** ceiling glass fiber **laminate**
- IT Sound insulators  
(**laminates** of polyolefins with synthetic fiber mats, for **automobile** ceilings)
- IT Glass fibers, uses and miscellaneous  
RL: USES (Uses)  
(nonwovens from polyethylene fibers and, **laminates** with polyolefins, with high bending strength, for **automobile** ceilings)
- IT Synthetic fibers, polymeric  
RL: USES (Uses)  
(ethylene, nonwovens from glass fibers and, **laminates** with polyolefins, with high bending strength, for **automobile** ceilings)
- IT **Automobiles**  
(**headlinings**, **laminates** of polyolefins with synthetic fiber mats, with high bending strength)
- IT **9003-07-0, Polypropylene**  
RL: USES (Uses)  
(**laminates** with polyethylene and synthetic fiber mats, for **automobile** ceilings)
- IT 9002-88-4, Polyethylene  
RL: USES (Uses)  
(**laminates** with **polypropylene** and synthetic fiber mats, for **automobile** ceilings)
- L51 ANSWER 27 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 111:98931 **Composite** molded articles and process for producing the same. Yamaji, Katsuhiko; Ishida, Masahiko; Tsukamoto, Masahiro (Sekisui Chemical Co. Ltd., Japan). Eur. Pat. Appl. EP 308074 A2 19890322, 25 pp. DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1988-307649 19880818. PRIORITY: JP 1987-207674 19870820; JP 1987-207675 19870820; JP 1987-231742 19870916; JP 1987-231743 19870916; JP 1987-316728 19871215; JP 1987-326461 19871222; JP 1988-115398 19880512.
- AB **Composite** molded articles, suitable as automobile ceilings, are made of a nonwoven fibrous mat wherein inorg. monofilaments with length 10-200 mm and diameter 2-3 µm are partially bonded with a **thermoplastic** resin binder, many voids being provided through the

mat and a large number of fine holes communicating with the voids in the inside being formed in  $\geq 1$  surface of the mat. The mat is lightwt., rigid, heat-resistant and moldable. Thus, **glass fiber chopped** strands (50-100 mm, diameter 10  $\mu$ m) and polyethylene fibers (51 mm, diameter 30  $\mu$ m, m.p 135°) were fed at a 1:2 ratio to a carding machine to form a mat, and the mat was needlepunched to give a mat with thickness 10 mm and weight 800 g/m<sup>2</sup>. The mat was then heated and compressed by rolls and heated by air to give a **heat-moldable** sheet with thickness 8 mm. Both sides were then heated with an IR heater at 200° for 3 min, fed to a mold of depth 10 mm with clearance 5 mm and a curvature radius of recessed portion 5 mm, and pressed to give a traylike molded article with flexural strength 15-20 kg/cm<sup>2</sup>, flexural modulus 3000-4000 kg/cm<sup>2</sup>, moldability (curvature radius) 5.5 mm, dimensional stability 0.06%, acoustical properties (JIS A 1405; 1 KHz) 78%, and void content 91%.

- IC ICM D04H001-60  
ICS D04H001-00
- CC 40-10 (Textiles and Fibers)  
Section cross-reference(s): 38
- ST molded nonwoven inorg fiber mat; **glass fiber** mat  
moldable; automobile ceiling mat molded
- IT Polyamides, uses and miscellaneous  
Polyester fibers, uses and miscellaneous  
Polyesters, uses and miscellaneous  
RL: USES (Uses)  
(binders, in manufacture of nonwoven **glass fiber** mats with good mech. and acoustical properties)
- IT Sound insulators  
(**glass fiber** mats, manufacture of moldable, for automobile ceilings)
- IT **Glass fibers**, uses and miscellaneous  
RL: USES (Uses)  
(manufacture of moldable mats, with good mech. and acoustical properties)
- IT Binding materials  
(**thermoplastic** resins, for **glass fiber** mats)
- IT Synthetic fibers, polymeric  
RL: USES (Uses)  
(ethylene, binders, in manufacture of nonwoven **glass fiber** mats with good mech. and acoustical properties)
- IT Automobiles  
(**headlinings**, nonwoven **glass fiber** mats for, moldable)
- IT **9003-07-0, Polypropylene** 9003-53-6, Polystyrene  
RL: USES (Uses)  
(binders, in manufacture of nonwoven **glass fiber** mats with good acoustical and mech. properties)
- IT 9002-88-4, Polyethylene  
RL: USES (Uses)  
(fiber, binders, in manufacture of nonwoven **glass fiber** mats, with good mech. and acoustical properties)
- L51 ANSWER 28 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 111:40857 **Polypropylene laminates** for automobile interior ceilings. Osaki, Toshimasa (Sekisui Chemical Co. Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63219442 A2 19880913 Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-50988 19870305.
- AB **Laminates** with good heat resistance are prepared by **laminating**  $\geq 1$  side of **thermoplastic** foams and

crosslinked **polypropylene** (I) sheets or films. Thus, I foam (thickness 5-mm) was sandwiched between 0.2- and 0.3-mm-thick Linklon **PP** (silane-crosslinked I, containing 30% glass fiber) and water-treated to give a **laminates** with 65% gel content and having warpage 0.7-mm, after loading 100 g in 10 + 40 cm sample and heating for 2 h at 80°.


- IC ICM B60R013-02  
ICS B32B005-18; B32B027-32
- CC 38-3 (Plastics Fabrication and Uses)
- ST silane crosslinked **polypropylene laminate**;  
**automobile** interior ceiling **polypropylene**  
**laminates**; foam **polypropylene laminate**
- IT **Automobiles**  
(headlinings, interior, **laminates** of crosslinked  
**polypropylene** film and **polypropylene** foam as)
- IT 9003-07-0, **Polypropylene**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(cellular, **laminates** with crosslinked **polypropylene**  
film, heat-resistant, for **automobile** interiors)
- IT 121448-78-0, Linklon **PP**  
RL: USES (Uses)  
(**laminates** with **polypropylene** films,  
heat-resistant, for **automobile** interior ceilings)
- L51 ANSWER 29 OF 33 HCA COPYRIGHT 2004 ACS on STN
- 109:151413 Lightweight sound-insulating nonwoven sheets for **automobile**  
ceilings. Tsukamoto, Masahiro; Ishida, Masahiko (Sekisui Chemical Co.  
Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63120155 A2 19880524 Showa, 6 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-265907 19861107.
- AB The title webs with good flexural strength are prepared by forming webs from  
inorg. fibers and **thermoplastic** fibers (A), **laminating**  
one or two sides of the web with glass fibers, and hot pressing the  
**laminates** above the m.p. of A fibers. Thus, a web was prepared from  
a blend containing 50% glass fibers and 50% **polypropylene** fibers and  
**laminated** on two sides with glass fibers to give a  
**laminates** with each surface layer weight 10% (on inner layer glass  
fiber). The **laminates** was then heated 3 min at 200° and  
pressed 1 min at 1 kg/cm<sup>2</sup> to give a sound-insulating sheet with good  
flexural strength, in contrast to a sheet prepared using no surface layers.
- IC ICM D04H005-00  
ICS D04H005-06
- CC 40-10 (Textiles and Fibers)  
Section cross-reference(s): 57
- ST polypropene fiber nonwoven **automobile** ceiling; glass fiber  
nonwoven **automobile** ceiling; lightwt nonwoven **automobile**  
ceiling; sound insulating glass fiber nonwoven
- IT Glass fibers, uses and miscellaneous  
RL: USES (Uses)  
(nonwoven from polypropene fibers and, lightwt., sound-insulating, for  
**automobile** ceilings)
- IT Polypropene fibers, uses and miscellaneous  
RL: USES (Uses)  
(nonwovens from glass fibers and, lightwt., sound-insulating, for  
**automobile** ceilings)
- IT Synthetic fibers, polymeric  
RL: USES (Uses)  
(nonwovens from inorg. fibers and, lightwt., sound-insulating, for  
**automobile** ceilings)
- IT Sound insulators

- (nonwovens from organic and inorg. fibers, lightwt., for **automobile headlinings**)
- IT **Automobiles**  
(**headlinings**, nonwovens from organic and inorg. fibers for, lightwt., sound-insulating)
- IT Synthetic fibers  
RL: USES (Uses)  
(inorg., nonwovens from **thermoplastic** fibers and, lightwt., sound-insulating, for **automobile** ceilings)
- L51 ANSWER 30 OF 33 HCA COPYRIGHT 2004 ACS on STN 
- 109:111718 Manufacture of lightweight sound-insulating sheets for **automobile** ceilings. Ishida, Masahiko; Tsukamoto, Masahiro (Sekisui Chemical Co. Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63120151 A2 19880524 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-264656 19861106.
- AB The title sheets are prepared by forming nonwoven webs comprising inorg. fibers and organic fibers and containing **thermoplastic** resin (A) particles containing blowing agents, heating the web above the decomposition temperature of organic fibers and A, and then pressing the sheet. Thus, a nonwoven web was prepared from a blend of 95 parts **glass fibers** and 5 parts **polypropylene** fibers and 50 parts mixture containing 100 parts polyethylene (I) and 10 parts azodicarbonamide, **laminated** with a polyester nonwoven lining, heated 3 min at 180°, and pressed to give a lightwt. sheet with dimensional change ≤1% (2.9 mm portion) and ≤1% (8 mm portion), vs 10.0 mm and 8.8 mm, resp., using no I particles.
- IC ICM D04H001-60
- CC 38-2 (Plastics Fabrication and Uses)  
Section cross-reference(s): 57
- ST polyethylene cellular **glass fiber composite**;  
lightwt **glass fiber composite**;  
**automobile** ceiling **glass fiber composite**
- IT Polypropene fibers, uses and miscellaneous  
RL: USES (Uses)  
(blends with **glass fibers**, for manufacture of lightwt. **composites** for **automobile** ceilings)
- IT Sound insulators  
(cellular polyethylene **composites** with **glass fibers** as, for **automobile headlinings**)
- IT **Glass fibers**, uses and miscellaneous  
RL: USES (Uses)  
(**composites** with cellular polyethylene, lightwt., for **automobile** ceilings)
- IT **Automobiles**  
(**headlinings**, cellular polyethylene **composites** with **glass fibers** as)
- IT 9002-88-4, Polyethylene  
RL: TEM (Technical or engineered material use); USES (Uses)  
(cellular, **composites** with **glass fibers**, lightwt., for **automobile** ceilings)
- L51 ANSWER 31 OF 33 HCA COPYRIGHT 2004 ACS on STN 
- 108:57698 Header trimless ceiling materials for **automobiles**. Umemoto, Yoshiro; Ito, Kazuo; Yonekura, Katsuyoshi; Uchiyama, Akira (Toyota Motor Corp., Japan; Mitsui Petrochemical Industries, Ltd.). Jpn. Kokai Tokkyo Koho JP 62257838 A2 19871110 Showa, 4 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1986-102846 19860502.

- AB Title ceiling with good light resistance are prepared by **laminating** substrates, rubber adhesives, flame retardant-containing polyethylene (I) or **polypropylene** (II) foams and surface materials comprising 100 parts partially crosslinked **thermoplastic** rubbers of 20-40:20-40:30-50 I/II/ethylene- $\alpha$ -olefin rubbers, 0.1-0.3 parts hindered amine light stabilizers and 0.2-0.4 parts triazole UV absorbents. Thus, 100 parts peroxide-crosslinked composition comprising 30:25:45 I/II/ethylene-propene-5-ethylidene-2-norbornene rubber was mixed with 0.15 part Sanol LS 770 and 0.3 parts Tinuvin 326 and molded to form a film, which was then **laminated** with a I foam, a rubber adhesive, and a substrate [polystyrene (III) film/III foam/III film **laminate**] in order to form a ceiling with good light resistance.
- IC ICM B32B005-18  
ICS B32B025-08; B60R013-02
- CC 39-15 (Synthetic Elastomers and Natural Rubber)
- ST **automobile** header trimless ceiling material;  
**thermoplastic** elastomer polyethylene foam **laminate**;  
light resistance EPDM **thermoplastic** rubber; UV absorbent  
**thermoplastic** rubber roof; stabilizer light **thermoplastic**  
rubber roof
- IT **Laminated** products  
(of ethylene-propene- $\alpha$ -olefin **thermoplastic** rubbers,  
for **automobile** ceilings)
- IT Light stabilizers  
(triazoles, ethylene-propene- $\alpha$ -olefin **thermoplastic**  
rubbers containing, **laminates**, for **automobile** header  
trimless ceilings)
- IT Rubber, synthetic  
RL: USES (Uses)  
(ethylene-propene terpolymer, **thermoplastic**, containing UV  
absorbents and light stabilizers, **laminates**, for  
**automobile** header trimless ceilings)
- IT **Automobiles**  
(**headlinings**, header trimless, ethylene-propene- $\alpha$ -  
olefin **thermoplastic** rubber **laminates** for)
- IT 3896-11-5, Tinuvin 326  
RL: USES (Uses)  
(UV absorbents, Tinuvin 326, ethylene-propene- $\alpha$ -olefin  
**thermoplastic** rubbers containing, **laminates**, for  
**automobile** header trimless ceilings)
- IT 9002-88-4, Polyethylene 9003-07-0, **Polypropylene**  
RL: USES (Uses)  
(cellular, **laminates**, with ethylene-propene- $\alpha$ -olefin  
~~**thermoplastic**~~ rubbers, for **automobile** header trimless  
ceilings)
- IT 9003-53-6, Polystyrene  
RL: USES (Uses)  
(films and foams, **laminates**, substrates for  
**automobile** header trimless ceilings)
- IT 52829-07-9, Sanol LS 770  
RL: USES (Uses)  
(light stabilizer, Sanol LS 770, ethylene-propene- $\alpha$ -olefin  
**thermoplastic** rubbers containing **laminates**, for  
**automobile** header trimless ceilings)
- IT 25038-36-2  
RL: USES (Uses)  
(rubber, **thermoplastic**, containing UV absorbents and light  
stabilizers, **laminates**, for **automobile** header

trimless ceilings)

L51 ANSWER 32 OF 33 HCA COPYRIGHT 2004 ACS on STN   
98:55265 **Three layered** foam-containing **laminates**  
suitable for use as an **automobile headliner**. Le Duc,  
Edward C.; Schubert, John C. (Standard Oil Co., USA). U.S. US 4363848 A  
19821214, 3 pp. (English). CODEN: USXXAM. APPLICATION: US 1981-269518  
19810601.

AB **Thermoformable laminates** useful for **automobile**  
trim panels and **headliners** comprise a layer of fabric from  
polypropene fibers, a solid layer comprising a mixture of maleic  
anhydride-styrene copolymer (I) [9011-13-6], preferably rubber-modified,  
and **polypropylene** (II) [9003-07-0], and a layer of I  
foam. Thus, a **laminates** of I fibers with a 50:50 mixture of  
rubber-modified I (Dylark 250 [83138-12-9]) and II, a foam of I, and a  
film of rubber-modified I had good adhesion between the foam and fabric  
layer, and it was **thermoformable**.

IC B29D027-04; B32B005-18; B60J009-00  
NCL 428286000  
CC 38-3 (Plastics Fabrication and Uses)  
ST **automobile headliner plastic laminates**;  
maleic anhydride copolymer **laminates**; styrene copolymer  
**laminates**; **polypropylene laminates**  
**automobile headliner**



IT Polypropene fibers, uses and miscellaneous  
RL: USES (Uses)  
(**laminates** with maleic anhydride-styrene copolymer and  
**polypropylene**, for **automobile headliners**)

IT Plastics, **laminated**  
RL: USES (Uses)  
(maleic anhydride-styrene copolymer-**polypropylene**, for  
**automobile headliners**)

IT **Automobiles**  
(**headlinings**, plastic **laminates** for)

IT **9003-07-0**  
RL: USES (Uses)  
(**laminates** with maleic anhydride-styrene copolymer and  
polypropene fibers, for **automobile headliner**)

IT 9011-13-6 83138-12-9  
RL: USES (Uses)  
(**laminates** with **polypropylene** and polypropene  
fibers, for **automobile headliners**)

L51 ANSWER 33 OF 33 HCA COPYRIGHT 2004 ACS on STN    
76:86796 Glass fiber laminates. Hannes, George J. (Johns-Manville Fiber Glass  
Inc.). U.S. US 3620906 19711116, 6 pp. (English). CODEN: USXXAM.  
APPLICATION: US 1970-14221 19700225.

AB Acoustical panels were prepared comprising resin-bonded glass fiber, an  
intermediate polyethylene [9002-88-4] layer, and outer decorative and  
**protective** fabric layer. Thus, a 4-ply mat, comprised of glass  
fabric, polyethylene film, glass fiber mat impregnated with an uncured  
thermosetting resin, and glass fiber mat impregnated with a cured resin,  
was laminated while heating to cure the thermosetting resin and to bond  
the softened polyethylene film with the glass fabric layer and the glass  
fiber mass. **Automobile headliners** were prepared  
similarly from these laminates.

IC B32B  
NCL 161203000  
CC 37 (Plastics Fabrication and Uses)



ST sound insulation laminate; **automobile headliner**  
laminate; glass fiber laminate; polyethylene glass fiber laminate;  
decorative glass fiber laminate

=>

? show files

File 6:NTIS 1964-2004/Oct W4  
 (c) 2004 NTIS, Intl Cpyrght All Rights Res  
 File 8:EI Compendex(R) 1970-2004/Oct W4  
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 File 63:Transport Res(TRIS) 1970-2004/  
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 File 81:MIRA - Motor Industry Research 2001-2004/Sep  
 (c) 2004 MIRA Ltd.  
 File 94:JICST-EPlus 1985-2004/Oct W1  
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 File 266:FEDRIP 2004/Aug  
 Comp & dist by NTIS, Intl Copyright All Rights Res  
 File 347:JAPIO Nov 1976-2004/Jun(Updated 041004)  
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 File 350:Derwent WPIX 1963-2004/UD,UM &UP=200470  
 (c) 2004 Thomson Derwent  
 File 323:RAPRA Rubber & Plastics 1972-2004/Dec  
 (c) 2004 RAPRA Technology Ltd  
 File 399:CA SEARCH(R) 1967-2004/UD=14119  
 (c) 2004 American Chemical Society

? ds

Set	Items	Description
S1	3813	HEADLINER? OR HEADLINING? OR (HEAD OR ROOF? OR CEILING?) (N- ) (LINER? OR LINING?)
S2	2391951	PROTECT? OR SAFETY OR SAFE
S3	469	S1 AND S2
S4	1590398	AUTO? ? OR AUTOMOBILE? OR CAR? ? OR VEHICLE? OF TRUCK? OR - VAN? ?
S5	152	S3 AND S4
S6	10201	HEAD(2N) (IMPACT? OR PROTECT? OR SAFETY)
S7	22	S5 AND S6
S8	1162017	LAMEL? OR LAMIN? OR MULTILAYER? OR MULTICOAT? OR MULTIFILM? OR (MULTI OR MULTIPL? OR PLURAL? OR THREE OR MANY OR NUMEROU- S? OR SEVERAL? OR FEW OR MULTIFOLD? OR MANIFOLD? OR MULTITUD?- ) (2N) (LAYER? OR COAT? OR FILM?)
S9	2139	THREEPLY? OR THREEPLIES OR THREEPLIED OR (THREE OR 3) (2N) (- PLY OR PLIES OR PLIED OR PLYING? ?)
S10	0	S7 AND (S8 OR S9)
S11	18	S5 AND (S8 OR S9)
S12	776177	THERMOFORM? OR THERMOPLASTIC? OR (HEAT? OR HOT? ? OR THERM- OL? OR THERMAL? OR MELT? OR FUSE? ? OR FUSING? ? OR FUSION? )- (N) (FORM?? ? OR FORMING? OR MOLD?)
S13	8	S11 AND S12
S14	3716649	POLYPROPYLENE? ? OR PP OR PROPYLENE(N) (POLYMER? ? OR HOMOP- OLYMER? OR COPOLYMER? OR TERPOLYMER? OR RESIN?)
S15	4	S14 AND S13
S16	9	S14 AND S11
S17	31	S12 AND S5
S18	5	S12 AND S7
S19	31	S17 OR S18
S20	30	RD (unique items)
S21	16	S19 AND S14
S22	232848	GLASS?? ?(2N) (FIBER? OR FIBR?)
S23	4	S21 AND S22
S24	22	SUPERLITE?(2N)AZDEL

S25 19 S24 AND S12  
 S26 14 S25 AND S14  
 S27 7 S26 AND S1  
 S28 3 S27 AND S4  
 S29 3716654 S14 OR S24  
 S30 121558 S12 AND S29  
 S31 232 S30 AND S1  
 S32 110 S31 AND S4  
 S33 16 S32 AND S2  
 S34 4 S33 AND (S8 OR S9)  
 S35 22 S21 OR S27 OR S33  
 S36 21 RD (unique items)  
 S37 4 S36 AND S11  
 S38 35 S36 OR S11  
 S39 35 RD (unique items)  
 S40 30 S36 OR S13 OR S15 OR S16  
 S41 30 RD (unique items)  
 ? t s41/7,de/1-30

41/7,DE/1 (Item 1 from file: 8)  
 DIALOG(R)File 8:Ei Compendex(R)  
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04413407

E.I. No: EIP96063203492  
 Title: Expanding role across wide industrial sectors  
 Author: Ward, Derek  
 Source: Textile Month Apr 1996. p 33-36, 41  
 Publication Year: 1996  
 CODEN: TXMOAW ISSN: 0040-5116  
 Language: English  
 Document Type: JA; (Journal Article) Treatment: A; (Applications)  
 Journal Announcement: 9607W4  
 Abstract: Nonwovens is increasingly playing an important role in many different industries. This was manifested at the recent INDEX 96 Exhibition and Congress held in Switzerland. Nearly 400 exhibitors presented nonwoven products ranging from water-vapor permeable roof lining to an award-winning fraud-proof identification card, in addition to the highly sophisticated materials now demanded by the hygiene and medicare sectors. Other nonwoven applications presented include filtration, transport, construction, environmental protection and packaging.  
 Descriptors: \*Nonwoven fabrics; Textile industry; Biodegradation; Polysaccharides; Strength of materials; Medical applications; Composite materials; Laminates; Textile machinery; Polypropylenes

41/7,DE/2 (Item 2 from file: 8)  
 DIALOG(R)File 8:Ei Compendex(R)  
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01797367

E.I. Monthly No: EI8509074279  
 E.I. Yearly No: EI85006803  
 Title: PLASTICS IN CARS.  
 Author: Anon  
 Source: Plast in Cars Publ by VDI-Verlag (Kunststofftechnik), Duesseldorf, West Ger, 1983 259p  
 Publication Year: 1983  
 ISBN: 3-18-404095-X

Language: ENGLISH

Document Type: MR; (Monograph Review) Treatment: A; (Applications); G;  
(General Review)

Journal Announcement: 8509

Abstract: This book contains 14 chapters on novel uses of plastics in automobiles, vans, snow plows, and rescue vehicles. Topics covered are bumper systems, underbody seals for engine compartments, cladding and protective strips for bumpers, glass mat reinforced polypropylene, injection-molded front spoilers, extensible roofs for vans, roof spoilers, cost reduction on snow plows, plastic uses in a rescue vehicle, large thermoplastic panels, plastic fuel tanks, back rests, seatbelt couplings, bonded roof liners, door cladding, fabric laminates, door seals, and axles. 18 refs.

Descriptors: \*AUTOMOBILE MATERIALS--\*Plastics; AUTOMOBILES--Bodies;  
PLASTICS, REINFORCED--Fibers; PLASTICS LAMINATES; PLASTICS, FOAMED;  
POLYCARBONATES

41/7,DE/3 (Item 1 from file: 81)  
DIALOG(R)File 81:MIRA - Motor Industry Research  
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209396

AZDEL SUPERLITE(R) composite reduces weight and enhances performance in automotive interiors

GE Advanced Materials - Press Release

February 2, 2004

Document Type: PRESS RELEASE Language: ENGLISH

Record Type: ABSTRACT

Supplier Record Type: Press Release

BERGEN OP ZOOM, The Netherlands Feb. 2, 2004 Already achieving successes in automotive interior programs, which include headliner, sunshade, and parcel shelf applications in the U.S., Australia, and China, AZDEL SUPERLITE(R) composite is now being trialed by automotive OEMs in Europe.

AZDEL SUPERLITE composite is a low-pressure, thermoformable composite of a polypropylene resin matrix and chopped-fiber reinforcement. Developed specifically for automotive interior applications, the material offers light weight, a high stiffness-to-weight ratio, good dimensional stability, and high impact resistance over a wide temperature range. This combination of properties enables engineers to design components for vehicle weight reduction without compromising part performance or aesthetics.

As well as achieving weight savings of up to 50 percent in some components, AZDEL SUPERLITE composite also delivers production advantages. In headliners the first application in which AZDEL SUPERLITE composite was used this versatile sheet can be molded directly in one step together with surface textile and special functional layers, thereby eliminating the several production steps required with traditional materials. Because of the product's high stiffness-to-weight ratio, headliners can be constructed with ultra-thin profiles, down to three millimeters thick, half the thickness of conventional systems.

'The combination of wide versatility and performance properties can make AZDEL SUPERLITE composite an excellent material for pre-assembled modular headliners,' says Gordon King, commercial director, AZDEL, Inc., Europe.

'It allows the entire system to be mounted to a vehicle as a single assembly. Its light weight and low-pressure formability, often using existing tooling, means that AZDEL SUPERLITE composite has the potential to reduce system costs by up to 20 percent.'

To meet growing OEM demand for AZDEL SUPERLITE composite, AZDEL, Inc. is expanding its U.S.-based global supply facility in Lynchburg, Va. The introduction of a third AZDEL SUPERLITE composite line will add 7,000 tons to the company's current annual capacity, totaling more than 25,000 tons when it comes on-stream this quarter.

According to James Forden, president, AZDEL, Inc., 'This investment reflects the strong interest in AZDEL SUPERLITE composite by the automotive industry and the global translatability of the application programs it is supporting. This step-increase in capacity will help further ensure product supply, as well as confirm our ongoing commitment to serve this sector.'

With its low-weight advantages, ultra-thin profile, and high stiffness-to-weight ratio, AZDEL SUPERLITE composite can be formed with varying thickness and stiffness. Moreover, it allows manufacturers to use slightly modified existing tooling, helping to prevent creasing during the installation process. Furthermore, with better moisture resistance and lower emissions than traditional materials, AZDEL SUPERLITE composite can be an ideal candidate for interior applications.

The composite was recently chosen by Lear Corp. for the automotive interior integration program for the Ford GT performance vehicle. AZDEL SUPERLITE composite was specified for the headliner, bulkhead cover, door panels, pillar trims, center console, and instrument panel. The material met all key criteria and demonstrated its cost efficiency in high-end, low-volume models. It also helped save an estimated 30 percent more weight per vehicle than conventional injection-molded substrates. Currently in limited production, the Ford GT performance vehicle is scheduled to go into regular production in spring 2004.

In Europe, modular headliners, rear parcel shelves, door trim panels, underbody shields, and instrument panels made from AZDEL SUPERLITE composite are currently under development in cooperation with tier 1 automotive suppliers. These include a novel instrument panel concept featuring a new NIS seamless airbag system that exploits the high integration opportunities offered by the product (which avoids adding extra parts or materials to the passenger airbag area). The high load-bearing strength-to-stiffness ratio of AZDEL SUPERLITE composite is also opening the way for its integration into new rear parcel shelf concepts now being explored by the industry.

The GE Advanced Materials Automotive Application Development Center in Southfield, Mich., U.S., and its European Design Center in Bergen op Zoom, The Netherlands, provide the world's leading automotive manufacturers and tier suppliers with extensive technical support. Expert staff assist with concept generation, complete pre-production consultancy, application and performance prediction, processing simulation, feasibility and cost studies, advanced processing capabilities, system solutions, and innovative automotive expertise.

Moreover, GE Advanced Materials affiliates, Polymer Solutions Inc. in the United States and GE Polymer Design Associates in Europe, can assist customers with a complete set of design and engineering services, or with finding an optimal solution to a specific task. This support covers the

full range of automotive disciplines styling, engineering design, CAD, finite element analysis, model and prototyping, tooling, testing, and project management.

Descriptors : AZDEL; GE ADVANCED MATERIALS; GENERAL ELECTRIC; INTERIORS; JOINT VENTURES; PLASTICS; PPG INDUSTRIES; PRODUCT DEVELOPMENT; PRODUCTION MATERIALS

41/7,DE/4 (Item 1 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
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02375348 JICST ACCESSION NUMBER: 95A0452996 FILE SEGMENT: JICST-E  
Topics on automotive materials - centering around interior finishing materials. Automotive interior finishing materials. Progressing conversion to polyolefine.

Porifairu(Polyfile), 1995, VOL.32,NO.4, PAGE.16-17, TBL.1

JOURNAL NUMBER: S0870ABU ISSN NO: 0910-2175

UNIVERSAL DECIMAL CLASSIFICATION: 678.06:629.11

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

ABSTRACT: In interior finishing materials of automobile, conversion from conventional plastic materials to polypropylene (PP) is progressing as recycling problem comes out. Compound molding interior finishing materials mainly using PP have become used for instrument panels, trim covers, doors, headlinings ( ceiling ) in which PP has not been used so much until now. As future problems of interior finishing materials themselves, expectation to polyolefine materials centering around PP is big for responses to recycling, safety in collision, regulation on flame retardation, energy saving and resource saving.

DESCRIPTORS: automotive fitting; automotive body structure; polypropylene; interior finishing material; fiber reinforced plastic; glass fiber; plastic foam; polyurethane; polyvinyl chloride; resource recycling; reuse; recycle

BROADER DESCRIPTORS: thermoplastic; plastic; polyolefin; polymer; finishing material; material; reinforced plastic; composite material; inorganic man made fiber; man-made fiber; fiber; high temperature fiber; porous medium; porous object; chlorine-containing polymer; halogen-containing polymer; regeneration; utilization

41/7,DE/5 (Item 1 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
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01759626 20030402956

Simplified high efficiency polypropylene foam part designs for automotive headliner countermeasure applications

(Vereinfachter Entwurf hocheffizienter

Polypropylenschaumstoff-Fahrzeugbauteile zum Einsatz als Schutz gegen Kopfverletzungen)

Maurer, M; Tusim, M; Lemmon, J; Williams, S

SPE Automotive TPO Global Conf. 2002, Dearborn, USA, Sep 30 - Oct 2, 2002

Document type: Conference paper Language: English

Record type: Abstract

## ABSTRACT:

On August 18, 1995 the National Highway Traffic and Safety Administration (NHTSA) invoked Federal Motor Vehicle Safety Standard (FMVSS) 201 U to provide protection when an occupant's head strikes upper interior components such as side rails, front headers and the roof during a crash. Subject to the phase-in requirements of FMVSS 201 U, all vehicles manufactured after September 1, 2002 will be required to satisfy the head injury criteria (HIC) requirements of FMVSS 201 U. Automotive OEM's are now equipping upper interior components such as headliners with foam, structural thermoplastic components, or structural composite countermeasures to manage energy during simulated head impact crash tests. For most small, midsize and luxury car platforms, automotive OEM's are now offering optional features such as powered sunroofs and integrated air bag curtains on most coupe and sedan models. With these options available on most passenger cars today, as many as eight discrete headliners may need to be designed. The challenge facing automotive OEM's lies in using unique energy absorbing (EA) countermeasure designs with a common headliner substrate surface without increasing the cost or investment while maintaining optimal head impact performance. This paper will discuss how high efficiency polypropylene foam headliner countermeasure part designs can be simplified without the need for costly tooling associated with injection molded ribbed cartridges, molded polyurethane foams and steam chest molded expanded bead foam parts. An advanced component-level headliner countermeasure test methodology will be discussed in addition to the statistical analysis of such tests performed with EA countermeasures.

DESCRIPTORS: POLYPROPYLENE; FOAMED PLASTIC; VEHICLE COMPONENTS; STANDARDS; PROTECTIVE MEASURE; CRASH TEST; INJECTION MOULDING; ENERGY ABSORPTION; TEST METHOD

41/7,DE/6 (Item 1 from file: 347)  
DIALOG(R) File 347:JAPIO  
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04894408  
IMPACT ABSORBING STRUCTURE OF AUTOMOBILE ROOF

PUB. NO.: 07-187008 [JP 7187008 A]  
PUBLISHED: July 25, 1995 (19950725)  
INVENTOR(s): FUJII HIROSHI  
ITO MASAOKI  
MIZUTANI FUMIHIKO  
NAITO HIDEKI  
APPLICANT(s): INOAC CORP [324352] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 05-347408 [JP 93347408]  
FILED: December 24, 1993 (19931224)  
JAPIO CLASS: 26.2 (TRANSPORTATION -- Motor Vehicles); 37.2 (SAFETY -- Traffic)

## ABSTRACT

PURPOSE: To increase absorbing capability of impact energy by mounting a cushioning element between a roof lining material and a roof structural material which are located at the side part of the roof.

CONSTITUTION: An automobile roof 10 is provided with a roof lining material 14 which is spread over the interior side of a roof structural material consisting of a car body outer plate 12 and a roof inner plate 13. A

cushioning element 15 is mounted between a roof structural material 11 and the roof lining material 14. The cushioning element 15, which is for absorbing impact from a cabin, is formed into a nearly rectangular shape so that it may be stored along a clearance 16 between the roof structural material 11 and the lining material 14. Materials suitable to the cushioning element 15 include foaming elements, such as rigid urethane foam, semi-rigid urethane foam, styrol foam and polypropylene foam, and hollow-formed materials which are injection-molded or hollow-molded from a thermoplastic resin. It is thus possible to increase impact energy to be absorbed.

41/7,DE/7 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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016230308

WPI Acc No: 2004-388197/200436

Composite structure for use in e.g. automobile interior headliners, comprises three dimensional structural core constructed of polymer with first and second series of repeating geometric patterns

Patent Assignee: PANIK K (PANI-I); SIMMONS F A (SIMM-I); SIMMONS R A (SIMM-I); STOLL J R (STOL-I)

Inventor: PANIK K; SIMMONS F A; SIMMONS R A; STOLL J R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040081797	A1	20040429	US 2002352707	P	20020128	200436 B
			US 2003352803	A	20030128	

Priority Applications (No Type Date): US 2002352707 P 20020128; US 2003352803 A 20030128

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040081797	A1	19	B32B-003/10	Provisional application	US 2002352707

Abstract (Basic): US 20040081797 A1

Abstract (Basic):

NOVELTY - A composite structure comprises a three dimensional structural core (20) constructed of a polymer with a first series of geometric pattern repeated along its length and a second series of geometric pattern repeated along its width; first reinforcement layer positioned above and bonded to the core; and second reinforcement layer positioned below and bonded to the core. The first and second reinforcement layers are constructed of polymer.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of manufacturing a structural composite comprising preheating a sheet of polymer; forming the sheet of polymer into a structural core with a first and a second series of repeating geometric pattern by way of compression; laminating a first reinforcement layer onto the top of the structural core; laminating a second reinforcement layer onto the bottom of the structural core; affixing a decorative layer to the outer portion of the first reinforcement layer; and forming the structural composite into the shape for which it will be used in the interior of the vehicle.

USE - The structure is used in automotive industry, e.g. automobile interior headliners (claimed), energy absorbing countermeasures, glass matte used in load floors and paneling, clamshell-type sunvisor cores, vacuum formed returnable packaging trays, and body components such as



glass-reinforced bumpers. It may also be used in aviation, marine, building construction, office furniture, material handling, and kitchen appliances.

ADVANTAGE - The use of three-dimensional structural core provides low in cost, high strength, high environmental resistance, and high acoustical absorption that does not have to be so augmented after installation to comply with Federal safety standards.

DESCRIPTION OF DRAWING(S) - The figure is a side elevation exploded view of a structural core.

Structural core (20)

Peaks (22)

Troughs (24)

pp; 19 DwgNo 2/9

Title Terms: COMPOSITE; STRUCTURE; AUTOMOBILE; INTERIOR; COMPRISE; THREE; DIMENSION; STRUCTURE; CORE; CONSTRUCTION; POLYMER; FIRST; SECOND; SERIES; REPEAT; GEOMETRY; PATTERN

Derwent Class: A84; A95; P73

International Patent Class (Main): B32B-003/10

41/7,DE/8 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014877957

WPI Acc No: 2002-698663/200275

Fabricated article e.g. cushion packaging, footwear or decorative laminate film, is prepared from blend including propylene homopolymers or copolymers and random interpolymers

Patent Assignee: DOW CHEM CO (DOWC ); MITSUI CHEM INC (MITA ); DOW GLOBAL TECHNOLOGIES INC (DOWC ); GUEST M J (GUES-I); KARANDE S V (KARA-I); MORIYA S (MORI-I)

Inventor: CHAUDHARY B I; CHEUNG Y W; GUEST M J; KARANDE S; MORIYA S; MURAKAMI S; KARANDE S V

Number of Countries: 098 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200268529	A2	20020906	WO 2002US5952	A	20020227	200275 B
EP 1370607	A2	20031217	EP 2002709713	A	20020227	200402
			WO 2002US5952	A	20020227	
US 20040077787	A1	20040422	WO 2002US5952	A	20020227	200428
			US 2003468171	A	20030814	
AU 2002244184	A1	20020912	AU 2002244184	A	20020227	200433

Priority Applications (No Type Date): US 2001271697 P 20010227; US 2003468171 A 20030814

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200268529 A2 E 21 C08L-023/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

EP 1370607 A2 E C08L-023/10 Based on patent WO 200268529

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

US 20040077787 A1 C08L-023/04

AU 2002244184 A1 C08L-023/00 Based on patent WO 200268529

Abstract (Basic): WO 200268529 A2

Abstract (Basic):

NOVELTY - An article is fabricated from a blend including (wt.%) propylene homopolymers or copolymers (30-95), and random interpolymers (5-70). The random interpolymers comprise monomer units from (mol %) vinyl aromatic monomer (1.5-15), propylene (3-50), and ethylene and optionally additional olefin monomers (balance).

DETAILED DESCRIPTION - An article is fabricated from a blend comprising (wt.%) propylene homopolymers or copolymers (30-95), random interpolymers (5-70), styrenic homopolymers and copolymers (0-50), and fillers (0-80). The random interpolymers comprise monomer units from (mol %) vinyl aromatic monomer (1.5-15), propylene (3-50), and ethylene and optionally additional olefin monomers (balance). The styrenic homopolymers and copolymers include random styrene/diene copolymers and hydrogenated random styrene butadiene copolymer, ethylene homopolymers and copolymers, including ethylene/styrene interpolymers, and styrenic block copolymers.

USE - The article is useful as e.g. cushion packaging, footwear, decorative film, display packaging, shrink wrapped and vacuum packed articles. It can be films for tamper resistant bottles, labels, for medical packaging, and bottle labels. It useful for power distribution system, wire and cable, construction material e.g. flooring system, sound and vibration management systems, toys, sporting goods, appliances, automotive interiors, automotive exteriors, automotive under the hood, lawn and garden, personal protective wear, apparel, traffic cones, housewards, films, coated fabrics, medical tubing and hoses, industrial tubing and hoses, profile extrusions, seals and gaskets, handles and grips, upholstery, industrial covers, luggage, artificial leather goods, and tapes. It can also be used for medical applications e.g. oxygen masks and mouthguards, pharmaceutical vials, lids, containers, cosmetics and personal care packaging, caps, and closures, food service trays, reusable table ware, jewel boxes, small appliances and power tools. It can be corner blocks, braces, saddles, pouches, bags, envelopes, overwraps, interleaving, encapsulation) of finished electronic goods e.g. computers, televisions, and kitchen appliances. It can also be used for packaging or protection of explosive materials and devices, material handling (trays, tote boxes, box liners, tote box inserts and dividers, shunt, stuffing, boards, parts, spacers and parts separators), work station accessories (aprons, table and bench top covers, floor mats, seat cushions, automotive (e.g. headliners, impact absorption in bumpers or doors, carpet underlayment, sound insulation), flotation (e.g. life jackets, vests and belts), sports and leisure (e.g. gym mats and body boards), egg cartons, meat trays, and fruit trays. It can also be used in thermal insulation (e.g. used in building and construction for wall sheathing, roofing, foundation insulation and residing underlayment), acoustical insulation (e.g. for appliances and building and construction), pipe insulation, insulation for refrigeration, buoyancy applications (e.g. floating docks and rafts), floral and craft products, pallets, desk pads, insulation blankets for greenhouses, case inserts, display foams, gaskets, grommets, seals, sound attenuation for printers and typewriters, display case insert, missile container padding, military shell holder, blocking and bracing of items in transport, preservation, and packaging.

ADVANTAGE - The inventive articles exhibit high toughness, tensile properties, and heat resistance and low stress whitening, and further exhibit desirable optical properties.

pp; 21 DwgNo 0/0

Title Terms: FABRICATE; ARTICLE; CUSHION; PACKAGE; FOOTWEAR; DECORATE;  
LAMINATE; FILM; PREPARATION; BLEND; PROPYLENE; HOMOPOLYMER; COPOLYMER;  
RANDOM; INTERPOLYMER

Derwent Class: A17; A94

International Patent Class (Main): C08L-023/00; C08L-023/04; C08L-023/10

International Patent Class (Additional): C08L-025/02

41/7,DE/9 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013817502

WPI Acc No: 2001-301714/200132

Lining of an automobile roof comprises two layers which are welded to one another only at certain places so that air cushions covered by dome-like regions of the upper layer are formed

Patent Assignee: QUADRANT PLASTIC COMPOSITES AG (QUAD-N); SYMALIT AG (SYMA-N)

Inventor: MAIER W

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 20102194	U1	20010510	DE 2001U2002194	U	20010208	200132 B
DE 10160442	A1	20020829	DE 1060442	A	20011208	200264

Priority Applications (No Type Date): DE 2001U2002194 U 20010208

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 20102194	U1	10		B60R-013/02	
DE 10160442	A1			B60R-013/02	

Abstract (Basic): DE 20102194 U1

Abstract (Basic):

NOVELTY - The lining of an automobile roof comprises two layers (1, 2) and (1', 2') which are welded to one another only at certain places (3) so that air cushions covered by dome-like regions of the upper layer (1, 2) are formed.

USE - For lining of automobile roofs.

ADVANTAGE - The lining offers protection to automobile occupants as a result of its cushioning properties. It also functions as a sound absorber.

DESCRIPTION OF DRAWING(S) - The drawing shows a cross section through the proposed roof lining.

Outer fiber reinforced thermoplastic material (1, 1')

Inner closed-cell foam material (2, 2)

Welds (3)

Air cushions (4)

pp; 10 DwgNo 1/3

Title Terms: LINING; AUTOMOBILE; ROOF; COMPRISE; TWO; LAYER; WELD; ONE;  
PLACE; SO; AIR; CUSHION; COVER; DOME; REGION; UPPER; LAYER; FORMING

Derwent Class: A95; Q17

International Patent Class (Main): B60R-013/02

International Patent Class (Additional): B60R-013/08; B60R-021/04

41/7,DE/10 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013759929

WPI Acc No: 2001-244141/200125

Elastic article for use in e.g. feminine hygiene napkins, sports apparel and furniture upholstery, comprises at least one hydrogenated block polymer

Patent Assignee: DOW CHEM CO (DOWC ); DOW GLOBAL TECHNOLOGIES INC (DOWC )  
; BENSASON S (BENS-I); CHUM P S (CHUM-I); ESNEAULT C P (ESNE-I); HAHN S F (HAHN-I); HO T H (HOTH-I); MAUGANS R A (MAUG-I); PATEL R M (PATE-I); WALSH L K (WALS-I)

Inventor: BENSASON S; CHUM P S; ESNEAULT C P; HAHN S F; HO T H; MAUGANS R A  
; PATEL R M; WALSH L K; CHUM P

Number of Countries: 091 Number of Patents: 015

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200109239	A1	20010208	WO 2000US20826	A	20000728	200125 B
AU 200066154	A	20010219	AU 200066154	A	20000728	200129
BR 200013064	A	20020402	BR 200013064	A	20000728	200231
			WO 2000US20826	A	20000728	
NO 200200407	A	20020326	WO 2000US20826	A	20000728	200235
			NO 2002407	A	20020125	
EP 1208157	A1	20020529	EP 2000953757	A	20000728	200243
			WO 2000US20826	A	20000728	
CZ 200200339	A3	20020717	WO 2000US20826	A	20000728	200260
			CZ 2002339	A	20000728	
KR 2002026554	A	20020410	KR 2002701200	A	20020128	200267
US 20020147273	A1	20021010	US 99146008	P	19990728	200269
			US 2000197161	P	20000413	
			US 2000203558	P	20000511	
			US 2000627727	A	20000728	
			US 20016082	A	20011206	
CN 1365378	A	20020821	CN 2000810904	A	20000728	200281
JP 2003506513	W	20030218	WO 2000US20826	A	20000728	200315
			JP 2001514037	A	20000728	
KR 2003021158	A	20030312	KR 2002714900	A	20021107	200349
MX 2002000981	A1	20020801	WO 2000US20826	A	20000728	200367
			MX 2002981	A	20020128	
US 6777082	B2	20040817	US 99146008	P	19990728	200454
			US 2000197161	P	20000413	
			US 2000203558	P	20000511	
			US 2000627727	A	20000728	
			US 20016082	A	20011206	
CN 1505660	A	20040616	CN 2000819504	A	20000728	200465
AU 773545	B2	20040527	AU 200066154	A	20000728	200465

Priority Applications (No Type Date): US 2000203558 P 20000511; US 99146008 P 19990728; US 2000197161 P 20000413; US 2000627727 A 20000728; US 20016082 A 20011206

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200109239 A1 E 121 C08L-053/02

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200066154 A C08L-053/02 Based on patent WO 200109239

BR 200013064 A C08L-053/02 Based on patent WO 200109239  
 NO 200200407 A C08L-000/00  
 EP 1208157 A1 E C08L-053/02 Based on patent WO 200109239  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE SI  
 CZ 200200339 A3 C08L-053/02 Based on patent WO 200109239  
 KR 2002026554 A C08L-053/02  
 US 20020147273 A1 C08L-053/00 Provisional application US 99146008  
 Provisional application US 2000197161  
 Provisional application US 2000203558  
 CIP of application US 2000627727  
 CN 1365378 A C08L-053/02  
 JP 2003506513 W 119 C08L-053/02 Based on patent WO 200109239  
 KR 2003021158 A C08L-053/02  
 MX 2002000981 A1 A43B-013/14 Based on patent WO 200109239  
 US 6777082 B2 C08L-053/00 Provisional application US 99146008  
 Provisional application US 2000197161  
 Provisional application US 2000203558  
 CIP of application US 2000627727  
 CN 1505660 A C08L-051/06  
 AU 773545 B2 C08L-053/02 Previous Publ. patent AU 200066154  
 Based on patent WO 200109239

Abstract (Basic): WO 200109239 A1

Abstract (Basic):

NOVELTY - A composition or an elastic article comprises at least one hydrogenated polymer.

DETAILED DESCRIPTION - A composition or an elastic article comprises at least one hydrogenated block polymer having:

- (i) a weight ratio of conjugated diene monomer unit to vinyl aromatic monomer unit before hydrogenation of at least 60:40;
- (ii) a weight average molecular weight (MW) before hydrogenation of 30000 - 150000; and
- (iii) a hydrogenation level such that each vinyl aromatic monomer unit block is hydrogenated to a level of greater than 90 (preferably 95)% and each conjugated diene monomer unit block is hydrogenated to a level of greater than 95 (preferably 99)% as determined using UV-VIS spectrophotometry and proton NMR analysis.

Each vinyl aromatic monomer unit has (MW) of 5000 - 45000 and each conjugated diene monomer unit has (MW) of 12000 - 110000. The elastic article optionally comprises at least one other polymer selected from a reactive tailored liquid polyurethane, an elastomeric or sulfonated ethylene/vinyl aromatic interpolymer, elastomeric ethylene/3-20C alpha olefin interpolymer, 3-20C alpha olefin/conjugated diene interpolymer, elastic polypropylene polymer, enhanced polypropylene polymer, elastomeric thermoplastic polyurethane, elastic polyester, partially hydrogenated block polymer, elastic polyamide, hydroxyl functionalized polyether or polyetheramine, styrene/conjugated diene interpolymer and elastomeric metallocene-catalyzed synthetic polymer or a blend or their formulated system.

INDEPENDENT CLAIMS are also included for:

(A) a formulated system comprising the hydrogenated block polymer, and an oil, and optionally polyolefin (0 - 60 wt.%), wax (0 - 40 wt.%) and tackifier (0 - 50 wt.%); or at least one of low molecular weight viscosity-reducing additives such as oil, wax, processing aid, plasticizer or tackifier. The polyolefin has a (MW) of greater than 10000 as determined by gel permeation chromatography;

(B) making the elastic article involving providing the hydrogenated

block polymer; and

(C) a composite structure; an absorbent item; a binder material used as a powder and in a dispersion, solution or latex; a nonwoven clothing item; a nonwoven item; a woven item; an apparel accessory item; carpet; a diaper; a incontinence pad; a sanitary napkin; a yarn; an apparel item; a form-fitting packaging item; an upholstery or furniture item; a textile item; a footwear item; a wound care item; a pad; a personal hygiene item and an infection control item; comprising an elastic article.

USE - As a leisure, sports, industrial, medical or sanitation apparel item (surgical gown or cap, head cover, shoes, feet covering or booties), surgical drape, hazardous chemical suit, non-hazardous industrial apparel item, disposable clean room apparel item, geotextile, wipe (cosmetic wipe, personal hygiene wipe), towel, fabric or personal care item (mit), belt, sock, ribbon, headband, hat, a diaper (pull-up diaper), incontinence pad, sanitary napkin, socks hosiery, intimate apparel, bra, panties, active wear, sports wear, athletic apparel (athletic jersey, aerobic shorts, gym shorts, athletic pants or running shorts), sleepwear, skirt, pants, blouse, work uniform, overalls, jumpsuit, undershirt, underwear and shirt, an upholstery or furniture item such as cushion, armrest, pillow, automobile carpeting, headliner, trunk liner, automobile upholstery, mattress ticking, seat, chair or sofa covering, produce bag, netting, footwear item such as slipper, shoe, athletic shoe or sneaker, sandal, a wound care item such as gauze, bandage, wrap suitable for healing sprains and strains, formed apparel shoulder pad and formed protective athletic pad (claimed). The composition is also used in face masks, head coverings, lab coats and jackets.

ADVANTAGE - The formulated system exhibits improved melt drawability and processability and elastic properties and provides retained or improved strength provides, exhibits high tensile strength for given processing melt flow rate. The composition has excellent stretchability.

pp; 121 DwgNo 0/7

Title Terms: ELASTIC; ARTICLE; FEMININE; HYGIENE; NAPKIN; SPORTS; APPAREL; FURNITURE; COMPRISE; ONE; HYDROGENATION; BLOCK; POLYMER

Derwent Class: A18; A28; A32; A83; A84; A92; A95; A96; A97; D22; F02; F07; P21; P22; P32; P34; P73

International Patent Class (Main): A43B-013/14; C08L-000/00; C08L-051/06; C08L-053/00; C08L-053/02

International Patent Class (Additional): A41D-013/00; A41D-031/00; A61F-005/44; A61F-013/15; A61F-013/49; A61F-013/511; A61F-013/514; A61F-013/53; A61L-015/58; A61L-015/60; B32B-027/00; C08J-005/00; C08J-007/00; C08J-009/12; C08L-023/16; C08L-101/00; D04H-001/56; D04H-003/16

41/7,DE/11 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013606965

WPI Acc No: 2001-091173/200110

Modular assembly for decelerating object that impacts the assembly includes base and energy absorbing module associated with the base for accommodating deformation of the assembly

Patent Assignee: OAKWOOD ENERGY MANAGEMENT INC (OAKW-N)

Inventor: AUDI R F; CARROLL P P; CORMIER J M; SMITH D S

Number of Countries: 094 Number of Patents: 004

## Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200074978	A1	20001214	WO 2000US15509	A	20000607	200110 B
AU 200055964	A	20001228	AU 200055964	A	20000607	200119
US 6199942	B1	20010313	US 9818666	A	19980204	200120
			US 99328196	A	19990608	
EP 1263628	A1	20021211	EP 2000941232	A	20000607	200301
			WO 2000US15509	A	20000607	

Priority Applications (No Type Date): US 99328196 A 19990608; US 9818666 A 19980204

## Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200074978	A1	E	34	B60R-021/04	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200055964	A			B60R-021/04	Based on patent WO 200074978
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US 6199942	B1			B60R-021/04	CIP of application US 9818666
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CIP of patent US 6017084

EP 1263628	A1	E		B60R-021/04	Based on patent WO 200074978
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Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Abstract (Basic): WO 200074978 A1

## Abstract (Basic):

NOVELTY - A modular assembly comprises a base, and energy absorbing module(s) associated with the base for accommodating deformation of the assembly.

DETAILED DESCRIPTION - A modular energy absorbing assembly (10) comprises:

(1) a base (12); and

(2) energy absorbing module(s) (16) associated with the base for accommodating deformation of the assembly.

The module comprises a structure formed from first and/or second structures.

The first structure comprises channels formed within the base and a lattice of interconnected strands. It is oriented such that the plane of each cell is parallel to the impacting force to maximize energy absorption over a given distance. The lattice collapses and at least some of the cells become at least partially closed during energy absorption. The strands intersect to define cells and are supported within the channels.

The second structure comprises separated adjacent, curvilinear recesses formed within the base. It is oriented such that the floor of each recess is orthogonal to the impacting force and its wall is parallel to the impacting force to maximize energy absorption by the wall over a given distance. Each recess has a floor and a wall defined within the base. The wall at least partially collapses and at least some of the cups at least partially compress during energy absorption, so that a selection from the first and second structures affords a user-determinable resistance of the assembly to impact.

USE - The modular assembly is used for decelerating an object that impacts the assembly. It is also useful in the head impact area in a car. Other applications include side impact, bumpers, knee bolsters, anti-submarine ramps, instrument panels, seatbacks and energy absorbers

that do not currently exist (e.g. absorbers to prevent engine and steering wheel intrusion into the passenger compartment upon high speed crash, or headrests).

ADVANTAGE - The invention offers manufacturing efficiency as compared to deployment of a rigid urethane foam absorber of the same overall volume. It carries a lower tooling cost as compared to injection moldings.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of the energy absorbing assembly.

Modular assembly (10)

Base (12)

Energy absorbing module (16)

pp; 34 DwgNo 1/18

Title Terms: MODULE; ASSEMBLE; DECELERATE; OBJECT; IMPACT; ASSEMBLE; BASE;

ENERGY; ABSORB; MODULE; ASSOCIATE; BASE; ACCOMMODATE; DEFORM; ASSEMBLE

Derwent Class: A32; A95; Q17

International Patent Class (Main): B60R-021/04

41/7,DE/12 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013144546

WPI Acc No: 2000-316418/200027

Armoring assembly for a vehicle has interior trim panels, each having a stratified lamina of ballistic fabric; and steel cables to hold the panels in place while bullets fired from firearms impinge upon their outer surfaces

Patent Assignee: LAIR T C (LAIR-I); SCHEER R A (SCHE-I)

Inventor: LAIR T C; SCHEER R A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6041689	A	20000328	US 97948377	A	19971009	200027 B

Priority Applications (No Type Date): US 97948377 A 19971009

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6041689	A	14	F41H-007/04		

Abstract (Basic): US 6041689 A

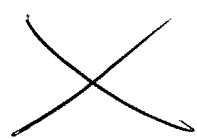
Abstract (Basic):

NOVELTY - Armoring assembly comprises interior trim panels (15A), each comprising a stratified lamina of ballistic fabric; and steel cables (5A) which are capable of holding the panels in place while bullets fired from firearms impinge upon their outer surfaces. Each panel is fitted to cover the inwardly facing surface of one roof supporting column of the passenger compartment of the vehicle.

USE - For a passenger carrying vehicle, e.g. automobiles, station wagons, sport utility vehicles, pickup trucks, vans, and limousines.

ADVANTAGE - The invented assembly provides armored protection of roof support columns without necessitating addition of armoring material to the outer surfaces of the columns, without the need for armored replacement of the columns, and without degrading the appearance of the vehicle's passenger compartment.

DESCRIPTION OF DRAWING(S) - The figure is a sectional view of a right A pillar original manufacturer's equipment (OEM) trim panel with attached ballistic composite.





Steel cables (5A)

Trim panel (15A)

pp; 14 DwgNo 4/7

Title Terms: ASSEMBLE; VEHICLE; INTERIOR; TRIM; PANEL; STRATIFIED; LAMINA;  
 BALLISTIC; FABRIC; STEEL; CABLE; HOLD; PANEL; PLACE; BULLET; FIRE;  
 FIREARM; IMPINGE; OUTER; SURFACE

Derwent Class: A95; Q79

International Patent Class (Main): F41H-007/04

41/7,DE/13 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012747054

WPI Acc No: 1999-553171/199947

Textile laminate with high water vapor permeability and high water  
 tightness

Patent Assignee: BOREALIS AG (BORA ); BOREALIS GMBH (BORA )

Inventor: KIRCHBERGER M; PANZER U; PAULIK C; WOLFSBERGER A

Number of Countries: 026 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 947313	A1	19991006	EP 99105998	A	19990325	199947 B
DE 19815045	A1	19991014	DE 1015045	A	19980403	199949
US 6235658	B1	20010522	US 99275685	A	19990324	200130
DE 19815045	B4	20040408	DE 1015045	A	19980403	200425

Priority Applications (No Type Date): DE 1015045 A 19980403

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 947313	A1	G	17	B32B-027/12	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

DE 19815045 A1 B32B-027/12

US 6235658 B1 B32B-027/04

DE 19815045 B4 B32B-027/12

Abstract (Basic): EP 947313 A1

Abstract (Basic):

NOVELTY - Textile laminate with a water vapor permeability of more than 1000 (preferably more than 1800) g/m<sup>2</sup> per 24 hours and a water tightness corresponding to a water column of more than 500 mm (preferably more than 750) mm comprises: (A) a sheet of woven, knitted or nonwoven fabric based on polyethylene, polypropylene, polyethylene terephthalate, polyamide, cellulose or cotton; (B) a film or extruded coating with a thickness of 3-200 (preferably 5-70) µm based on polypropylene and containing 0.01-2.5 wt.% stabilizers, 0.01-1 wt.% processing aids and optionally 0.1-1 wt.% antistatic, 0.2-3 wt.% pigments, 2-20 wt.% flame retardants and/or 0.05-1 wt.% nucleating agents and/or 10-70 (preferably 20-50) wt.% (in)organic fillers and/or reinforcers; and optionally (C) an adhesive layer between (A) and (B), having a thickness of 0.5-20 (preferably 1-10) µm and comprising a polar olefin polymer and/or an olefin graft copolymer, e.g. a copolymer of ethylene with vinyl acetate or (meth)acrylic acid or polyethylene or polypropylene grafted with an unsaturated carboxylic acid or anhydride.

DETAILED DESCRIPTION - The film or extruded coating is based on either: (1) a polymer blend comprising (a) 1-50 (preferably 5-30) wt.% of a modified propylene polymer with a melt flow index of 0.1-50

(preferably 1-40) g/10 minutes at 230 degrees C and 2.16 kg, where the ratio of the limiting viscosity of the modified polypropylene to that of an unmodified polypropylene with approximately the same molecular weight is 0.2-0.95; and (b) 50-99 (preferably 70-95) wt.% of a polymer selected from (i) propylene homopolymers and/or copolymers (statistical and/or block copolymers) with ethylene and/or 4-18C alpha-olefins, with a propylene content of 80-99.9 wt.%, preferably producing using Ziegler-Natta or metallocene catalysts, with a melt flow index of 0.1-300 (preferably 1-150) g/10 minutes at 230 degrees C and 2.16 kg; and/or (ii) polyolefin mixtures with a Mn/Mw ratio of 2-6 and a melt flow index of 1-40 g/10 minutes at 230 degrees C and 2.16 kg, comprising 60-98 wt.% of a crystalline copolymer of 85-99.5 wt.% propylene and 0.5-15 wt.% ethylene or 4-10C alpha-olefin and 2-40 wt.% of an elastic copolymer of 20-70 wt.% ethylene and 30-80 wt.% propylene and/or 4-10C alpha-olefin; and/or (iii) amorphous propylene (co)polymers that contain less than 10 wt.% crystalline phase, have an enthalpy of melting below 40 J/g, have a melt flow index of 0.1-100 g/10 minutes at 230 degrees C and 2.16 kg and comprise at least 80 mole % propylene and no more than 20 mole % 4-10C alpha-olefin; and/or (iv) non-isotactic polypropylene having a melting point of 145-165 degrees C, a melt viscosity of more than 200,000 cP at 190 degrees C, a heat of crystallization of 4-10 cal/g and an ether soluble content of 35-55 wt.%; or (2) a polymer blend comprising only the components of (b), comprising 0-95 wt.% (i) and 5-100 wt.% (ii)+(iii)+(iv).

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The laminate can be used (a) in the hygiene field, especially for making nappies, rompers, incontinence products, sanitary towels and tampons, (b) in the medical field, especially for making surgical robes, anti-infection clothing, and table or bed coverings, (c) in the textile and clothing industries, especially for making industrial protective clothing, sportswear, military clothing, linings or decorative coverings, (d) in the automobile industry, especially for sound and heat insulation and filter elements, and (e) in the building industry, especially as geotextile films, heat and sound insulation, drainage and isolation membranes and roof lining.

ADVANTAGE - The laminate has high water vapor permeability and high water tightness.

pp; 17 DwgNo 0/0

Title Terms: TEXTILE; LAMINATE; HIGH; WATER; VAPOUR; PERMEABLE; HIGH; WATER ; TIGHT

Derwent Class: A17; A23; A60; A82; A94; B07; D22; F04; F07; F08; P21; P34; P73

International Patent Class (Main): B32B-027/04; B32B-027/12

International Patent Class (Additional): A41D-013/00; A41D-013/12;

A61L-015/00; B32B-027/00; B32B-027/18; B32B-027/32; B32B-031/00;

B32B-033/00; C08J-005/18; C08L-023/00; C08L-023/10; D04H-013/00;

D06N-003/00

41/7,DE/14 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010130052

WPI Acc No: 1995-031303/199505

Deep-drawable film, esp. for prodn. of car interior linings - has layer contg. polypropylene block copolymer, propylene-EPDM and ionomer, and layer contg. EPDM, polypropylene, (co)polymer, ionomer and reactive

gp.-contg. copolymer

Patent Assignee: ALKOR GMBH (ALKO )

Inventor: DOUS E; MATHAVAN T

Number of Countries: 016 Number of Patents: 014

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4421128	A1	19941222	DE 494421128	A	19940616	199505 B
EP 630746	A2	19941228	EP 94109254	A	19940616	199505
BR 9402481	A	19950124	BR 942481	A	19940620	199511
CZ 9401537	A3	19950118	CZ 941537	A	19940621	199511
JP 7137112	A	19950530	JP 94139086	A	19940621	199530
EP 630746	A3	19950104	EP 94109254	A	19940616	199538
US 5482766	A	19960109	US 94267592	A	19940621	199608
US 5611982	A	19970318	US 94267592	A	19940621	199717
			US 95439779	A	19950512	
CN 1103359	A	19950607	CN 94106732	A	19940621	199727
EP 630746	B1	19970723	EP 94109254	A	19940616	199734
DE 59403431	G	19970828	DE 94503431	A	19940616	199740
			EP 94109254	A	19940616	
ES 2106414	T3	19971101	EP 94109254	A	19940616	199750
MX 191431	B	19990312	MX 944653	A	19940620	200051
CN 1054806	C	20000726	CN 94106732	A	19940621	200470

Priority Applications (No Type Date): DE 493330201 A 19930907; DE 493320474 A 19930621

Cited Patents: No-SR.Pub; 1.Jnl.Ref; EP 146349; EP 329288; EP 382849; EP 428851; EP 468947; EP 552563; EP 568815; US 5206294

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4421128	A1		11	B32B-027/32	
EP 630746	A2	G	12	B32B-027/28	
Designated States (Regional): AT BE DE ES FR GB IT LU NL SE					
BR 9402481	A			B32B-027/28	
CZ 9401537	A3			B32B-027/32	
JP 7137112	A		9	B29C-047/06	
EP 630746	A3			B32B-027/32	
US 5482766	A		8	B32B-005/14	
US 5611982	A		8	B29C-047/06	Div ex application US 94267592 Div ex patent US 5482766
CN 1103359	A			B32B-027/28	
EP 630746	B1	G	17	B32B-027/28	
Designated States (Regional): AT BE DE ES FR GB IT LU NL SE					
DE 59403431	G			B32B-027/28	Based on patent EP 630746
ES 2106414	T3			B32B-027/28	Based on patent EP 630746
MX 191431	B			B32B-027/032	
CN 1054806	C			B32B-027/28	

Abstract (Basic): DE 4421128 A

A deep-drawable compound film (I) comprises (A) a lower film consisting of (d) 1-60 wt.% partly crosslinked EPDM, (e) 12-30 wt.% propylene homo-, co- or graft co-polymer with or without reactive gps., (f) 77-9.5 wt.% polymer(s) and/or ionomer(s) based on ethylene and (meth)acrylic acid, with the acid gps., partly contg. or neutralised by metal ions, (g) 10-0.5 wt.% polymeric crosslinker(s) with reactive gps., contg. more than 51 wt.% ethylene or other olefin gps. and 1-49 wt.% (meth)acrylate and reactive gps. (epoxy, NCO, ketone, aldehyde, silane, alkyl halide and/or anhydride gps.), and opt. fillers, additives and/or process aids, and also opt. with a surface protection layer, together with (B) an upper film consisting of (a) 20-80 pts.wt.

crosslinked polypropylene (PP)-EPDM (alloy or mixt.) and (b) 80-20 pts.wt. uncrosslinked or heterophase PP block copolymer with an elastomer content in the block or chain of 35-75 wt.%, 15-1 (pref. 10-2) wt.% of which is replaced by (c) a reactive-gp.-contg. polymer and/or ionomer (as in f above), and opt. fillers etc. as above.

Also claimed is a process for the prodn. of (I) by coextrusion through a sheet die, using different twin-screw extruders for components (a-c) and components (d-g) at 150-280 (pref. 180-250)deg.C, so that two or more components of (A) (pref. f and g) undergo partial reaction or coupling to form a compound film.

USE - Used alone or combined with a foam layer, base layer, substrate, supporting layer, spacer, or layer of mesh or fabric, for the prodn. of interior linings for cars, pref. control panels, dashboards, side panels, door linings, headlinings, hat racks, and other lining parts or articles for cars (claimed).

ADVANTAGE - Provides a deep-drawable film with better properties than prior-art films, esp. good deep-drawing and embossing properties, good grain stability etc., which can be provided with the required degree of matt finish without additional matting agents.

Dwg.0/2

Abstract (Equivalent): EP 630746 B

A foil, capable of being deep-drawn, which (in relation to 100 parts by weight plastic of the foil) as lower foil consists of 1 to 60% by weight (d) at least of one partially cross-linked EPDM, 12 to 30% by weight (e) propylene homo-, -copolymeride or -graft polymeride with or without reactive groups, 77 to 9.5% by weight (f) at least of one polymer and/or ionomer containing reactive groups based on ethylene and methacrylic acid or acrylic acid, in which the acid groups contain partially metal ions or are neutralised by metal ions and 10 to 0.5% by weight (g) at least of one polymeric cross-linking agent containing reactive groups, which contains at more than 51% by weight (in relation to 100 parts by weight) (g) ethylene- or other olefin groups and at 1 to 49% by weight acrylate and/or methacrylate groups and reactive groups, in which epoxide-, isocyanate-, ketone-, aldehyde, silane-, alkylhalide- and/or anhydride groups apply as reactive groups and also if necessary at least one filler, additive and/or processing adjuvant, characterised in that the foil is a composite foil capable of being deep-drawn, which contains an upper foil, containing polyolefin, and at least one lower foil, differing qualitatively and quantitatively from the composition of the upper foil, with the components (d), (e), (f), (g) as plastic and also if necessary contains a surface protection layer, in which the upper foil (in relation to 100 parts by weight plastic of the upper foil) contains (a) 20 to 80 parts by weight at least of one cross-linked PP-EPDM (combination or mixture of propylene homo- and/or -copolymeride and cross-linked or partially cross-linked ethylene propylene diene mixed polymeride) (b) 80 to 20 parts by weight of a non-crosslinked propylene block copolymeride or heterophasic propylene block polymeride, with an elastomer component in the block or in the chain of 35 to 75% by weight (in relation to 100 parts by weight of the non-crosslinked heterophasic propylene block copolymeride or propylene block polymeride), in which (b) is replaced at 15 to 1% by weight, preferably 10 to 2% by weight by the same quantities of weight of a polymer and/or ionomer (c) containing reactive groups in which (c) at least one polymer and/or ionomer containing reactive groups based on ethylene and methacrylic acid and/or acrylic acid, in which the acid groups contain partially metal ions or are neutralised by metal ions, in which the upper- and lower foil contain if necessary fillers, additives and/or processing adjuvants.

Dwg.0/2

Abstract (Equivalent): US 5611982 A

A process for the prodn. of the deep-drawable laminated film, comprising: a polyolefin-contg. bottom film which (based on 100 parts by wt. of polymer in the film) comprises: (d) from about 1 to 60% by wt. of at least one partially crosslinked EPDM; (e) from about 12 to 30% by wt. of a propylene homopolymer, copolymer or graft polymer with or without reactive groups; (f) from about 77 to 9.5% by wt. of at least one polymer and/or ionomer contg. reactive gps. and based on ethylene and methacrylic acid or acrylic acid, at least some of the acid gps. contg. a metal ion or being neutralized by metal ions; and (g) from about 10 to 0.5% by wt. of at least one polymeric crosslinking agent which contains reactive gps. and comprises more than about 51% by wt. (based on 100 parts by wt. of (g)) of ethylene or other olefin gps. and from about 1 to 49% by wt. of acrylate and/or methacrylate gps. and reactive groups, the reactive gps. being selected from epoxy, isocyanate, ketone, aldehyde, silane, alkyl halide and/or anhydride groups; and at least one polyolefin-contg. top film, which differs from the composition of the bottom film, comprising (based on 100 parts by wt. of plastic of the top film) (a) from about 20 to 80 parts by wt. of at least one crosslinked PP-EPDM (alloy or blend of propylene homo- and/or copolymer and crosslinked or partially crosslinked ethylene-propylene-diene copolymer) and (b) from about 80 to 20 parts by wt. of an uncrosslinked propylene block copolymer or a heterophase propylene block polymer having an elastomer content of from about 35 to 75% by wt. (based on 100 parts by wt. of the heterophase propylene block copolymer or uncrosslinked propylene block polymer) in the block or in the chain, from about 15 to 1% by wt. of (b) being replaced with the same amt. by wt. of a polymer and/or ionomer (c) contg. reactive gps. and being based on ethylene and methacrylic acid and/or acrylic acid, at least some of the acid gps. contg. metal ions or being neutralized by metal ions, the process comprising the steps of: heat plastifying components (a) to (c) of the top film in at least one extruder; and heat plastifying components (d) to (g) of the bottom film in at least one further extruder, at a temp. of from about 150 deg. to 280 deg. C., whereby two or more components of the bottom film at least partially undergo a reaction at the extrusion temp.; and coextruding the laminated film through a single slot die.

Dwg.0/2

US 5482766 A

A deep-drawable laminated film, comprises:

a polyolefin-containing bottom film which (based on 100 parts by weight of polymer in the film) comprises:

(d) from about 1 to 60% by weight of at least one partially crosslinked EPDM;

(e) from about 12 to 30% by weight of a propylene homopolymer, copolymer or graft polymer with or without reactive groups;

(f) from about 77 to 9.5% by weight of at least one polymer and/or ionomer containing reactive groups and based on ethylene and methacrylic acid or acrylic acid, at least some of the acid groups containing a metal ion or being neutralized by metal ions; and

(g) from about 10 to 0.5% by weight of at least one polymeric crosslinking agent which contains reactive groups and comprises more than about 51% by weight (based on 100 parts by weight of (g)) of ethylene or other olefin groups and from about 1 to 49% by weight of acrylate and/or methacrylate groups and reactive groups, the reactive groups being selected from epoxy, isocyanate, ketone, aldehyde, silane, alkyl halide and/or anhydride groups; and

at least one polyolefin-containing top film, which differs qualitatively and/or quantitatively from the composition of the bottom

film, comprising (based on 100 parts by weight of plastic of the top film)

(a) from about 20 to 80 parts by weight of at least one crosslinked polypropylene-EPDM (alloy or blend of propylene homo- and/or copolymer and crosslinked or partially crosslinked ethylene-propylene-diene copolymer) and

(b) from about 80 to 20 parts by weight of an uncrosslinked propylene block copolymer or a heterophase propylene block polymer having an elastomer content of from about 35 to 75% by weight (based on 100 parts by weight of the uncrosslinked heterophase propylene block copolymer or propylene block polymer) in the block or in the chain, from about 15 to 1% by weight of (b) being replaced with the same amount by weight of a polymer and/or ionomer (c) containing reactive groups and being based on ethylene and methacrylic acid and/or acrylic acid, at least some of the acid groups containing metal ions or being neutralized by metal ions.

Dwg.0/2

Title Terms: DEEP; DRAW; FILM; PRODUCE; CAR; INTERIOR; LINING; LAYER; CONTAIN; POLYPROPYLENE; BLOCK; COPOLYMER; PROPYLENE; EPDM; IONOMER; LAYER ; CONTAIN; EPDM; POLYPROPYLENE; CO; POLYMER; IONOMER; REACT; GROUP; CONTAIN; COPOLYMER

Derwent Class: A18; A94; P73; Q13; Q17

International Patent Class (Main): B29C-047/06; B32B-005/14; B32B-027/032; B32B-027/28; B32B-027/32

International Patent Class (Additional): B29C-047/006; B29C-047/30; B29C-047/40; B29C-051/08; B29K-023-00; B29K-033-04; B29L-009-00; B32B-025/14; B32B-027/018; B32B-027/08; B32B-027/20; B32B-031/030; B32B-031/30; B60K-037/00; B60R-013/02; C08J-005/18; C08L-023/08; C08L-023/10; C08L-023/16

41/7,DE/15 (Item 1 from file: 323)

DIALOG(R)File 323:RAPRA Rubber & Plastics

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00911235

TITLE: NEW OPTION IN LIGHTWEIGHT PP/GLASS COMPOSITES

AUTHOR(S): Leaversuch R

SOURCE: Plastics Technology; 50, No.2, Feb.2004, p.37/9

ISSN: 0032-1257

CODEN: PLTEAB JOURNAL ANNOUNCEMENT: 200406 RAPRA UPDATE: 200410

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Swiss-based Quadrant Plastics Composites has recently introduced a family of lightweight reinforced thermoplastic (LWRT) composites to North America. New "Symalite LWRT" are composites made from a commingled fleece of PP fibre and glass fibre, and are intended for use in large, semi-structural automotive and non-automotive panels. Full details are provided here.

DESCRIPTORS: ADHESION; AMIDE POLYMER; APPLICATION; ASSEMBLY; AUTOMOTIVE APPLICATION; BLANK; BOND; BONDING; BUILDING APPLICATION; CAPACITY; CELLULAR MATERIAL; CHOPPING; CO-MINGLING; COMMERCIALISATION; COMMERCIALIZATION; COMMINGLING; COMPANIES; COMPANY; COMPOSITE; CORE; COST; COSTS; CUTTING; DENSITY; DESIGN; DEVELOPMENT; FIBER; FIBRE; FILM; FILMS; FLEECE; FLEXURAL PROPERTIES; FLOW; FOAM; FORMING; GRADE; HEADLINER; IN-MOLD DECORATING; IN-MOULD DECORATING; INSTRUMENT PANEL; LAMINATE; LIGHTWEIGHT; LINING; LOADING; LOFTED STRUCTURE; LONG FIBER; LONG FIBRE; M.P.; MARKETING; MAT; MATERIAL REPLACEMENT; MATERIALS

SUBSTITUTION; MATRIX; MATTING; MECHANICAL PROPERTIES; MELTING POINT; NYLON; OFF-THE-ROAD VEHICLE; PAINT; PAINTS; PANEL; PERMEATION; PHYSICAL PROPERTIES; PLANT LOCATION; PLASTIC; POLYAMIDE; POLYPROPENE; POLYPROPYLENE; POWDER; PP; PRESSURE; PROCESS; PROCESSING; PROCESSOR; PRODUCT ANNOUNCEMENT; PRODUCTION; PROPERTIES; REINFORCED PLASTIC; REINFORCED PLASTICS; RESEARCH; RESIN; ROOFING; SCRIM; SHEET; SIZE; SKIN ; SOLID; SPORTS EQUIPMENT; SPORTS GOODS; SPORTS UTILITY VEHICLE; STIFFNESS; STRUCTURAL APPLICATION; TARGET; TENSILE PROPERTIES; TENSILE STRENGTH; TEXTILE APPLICATION; THERMOPLASTIC; THICKNESS; TOOLING; VEHICLE; VEHICLE EXTERIOR; VEHICLE INTERIOR; WARPAGE; WEIGHT; WEIGHT REDUCTION

41/7,DE/16 (Item 2 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00898701

TITLE: COST PRESSURES HELP PLASTICS GAIN TRACTION

AUTHOR(S): Valero G

SOURCE: Modern Plastics International; 33, No.11, Nov.2003, p.51

ISSN: 0026-8283

CODEN: MOPLAY JOURNAL ANNOUNCEMENT: 200312 RAPRA UPDATE: 200323

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Increased pressure on automakers to reduce costs, while improving fuel economy, durability, safety and noise and vibration levels is expected to drive the use of plastics to new applications. Annual plastics consumption in passenger cars and light trucks assembled in North America is forecast to grow by more than 1 billion lb to 5.45 billion lb in 2013. Market Search's report identifies high-growth opportunities in polycarbonate and acrylic window glazing, ionomer-skinned bumper fascia, PP headliners and new bumper energy-absorber systems. According to a new study from Business Communications, exterior applications also represent more opportunities for plastics. This market is projected to grow 3%/year and reach 1.4 billion lb by 2006.

DESCRIPTORS: ACRYLIC; APPLICATION; AUTOMOTIVE APPLICATION; BLEND; BODY PANEL; BODY PANELS; BUMPER; CARBON FIBRE-REINFORCED PLASTIC; CARBONATE POLYMER; CFRP; COMPANIES; COMPANY; CONSUMPTION; CORROSION RESISTANCE; CORROSION RESISTANT; COST; COSTS; ECONOMIC INFORMATION; ELASTOMER; ENERGY ABSORPTION; ENGINEERING APPLICATION; ENGINEERING PLASTIC; FIBRE-REINFORCED PLASTIC; GROWTH RATE; HEADLINER; IN-MOLD ASSEMBLY; IN-MOLD DECORATING; IN-MOULD ASSEMBLY; IN-MOULD DECORATING; IONENE POLYMER; IONOMER; LINING; MECHANICAL PROPERTIES; PARTS CONSOLIDATION; PLASTIC; POLYCARBONATE; POLYIONENE; POLYPROPENE; POLYPROPYLENE; PP; RUBBER; STATISTICS; THERMOPLASTIC; THERMOPLASTIC ELASTOMER; THERMOPLASTIC RUBBER; THERMOSET; VEHICLE WINDOW; WEIGHT REDUCTION; WINDSCREEN

41/7,DE/17 (Item 3 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00833064

TITLE: AZDEL SUPERLITE COMPOSITE: NEW LIGHTWEIGHT SOLUTIONS FOR CAR MANUFACTURERS

SOURCE: Composites International; No.47, Sept./Oct. 2001, p.52-4  
ISSN: 0754-0876

CODEN: PRFTDV JOURNAL ANNOUNCEMENT: 200201 RAPRA UPDATE: 200125

DOCUMENT TYPE: Journal Article

LANGUAGE: French; English

SUBFILE: (R) RAPRA

ABSTRACT: The advantages of a novel glass fibre-reinforced PP sheet, called Azdel SuperLite, made by Azdel Inc., for automotive applications, such as headliners, are highlighted and the manufacturing process therefor is briefly described.

DESCRIPTORS: APPLICATION; AUTOMOTIVE APPLICATION; COMPANIES; COMPANY; COMPOSITE; DATA; GLASS FIBRE-REINFORCED PLASTIC; GRP; HEADLINER; LIGHTWEIGHT; LINING; MANUFACTURE; PLASTIC; POLYPROPENE; POLYPROPYLENE; PP; PRODUCT ANNOUNCEMENT; REINFORCED PLASTIC; REINFORCED PLASTICS; SHEET; TECHNICAL; THERMOPLASTIC; VEHICLE TRIM

41/7,DE/18 (Item 4 from file: 323)

DIALOG(R)File 323:RAPRA Rubber & Plastics

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00828578

TITLE: FOAM IMPROVEMENTS

AUTHOR(S): Reade L; Vink D

SOURCE: European Plastics News; 28, No.8, Sept.2001, p.60

ISSN: 0306-3534

CODEN: EUPNBT JOURNAL ANNOUNCEMENT: 200111 RAPRA UPDATE: 200122

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Alveo claims around one-third of total demand for PP foams comes from the automotive industry. At this year's K show, Alveo will launch its Alveolit TP VX, a PP foam developed specifically for vacuum forming applications. TP VX was designed to improve the elongation at break at elevated temperatures of the existing PP foams. It is used as cushioning material between a substrate and a decorative facing material. Applications include dashboards or interior trim parts with difficult shapes. Dow Automotive's Strandfoam, a high strength PP foam with fine-cell honeycomb structure, gained its first European application in the headliners of the new Jaguar X-type car. HT Troplast has recently developed a polyolefin foam product that affords better protection to passengers. It has used its physically crosslinked foam to produce a thin, soft layer of material that coats the dashboard.

DESCRIPTORS: ACQUISITION; ADHESIVE; ALKENE POLYMER; APPLICATION; AUTOMOTIVE APPLICATION; BOND; BONDING; BUMPER; CELLULAR MATERIAL; COMMERCIAL INFORMATION; COMPANIES; COMPANY; CROSSLINKED; CUSHIONING; DASHBOARD; DATA; DEMAND; DEVELOPMENT; DOOR; EB; ECONOMIC INFORMATION; ELONGATION AT BREAK; ENERGY ABSORPTION; FOAM; FORMING; GROWTH RATE; HEADLINER; HIGH TEMPERATURE; HONEYCOMB STRUCTURE; IMPACT PROPERTIES; LINING; MARKET SHARE; MECHANICAL PROPERTIES; NOISE CONTROL; OLEFIN POLYMER; PILLAR; PLANT EXPANSION; PLASTIC; POLYALKENE; POLYOLEFIN; POLYPROPENE; POLYPROPYLENE; PP; PRODUCT DEVELOPMENT; PROPERTIES; SEALANT; STATISTICS; STRENGTH; TAKEOVER; THERMOPLASTIC; TURNOVER; VACUUM FORMING; VEHICLE DOOR; VEHICLE TRIM; WATER BARRIER

41/7,DE/19 (Item 5 from file: 323)

DIALOG(R)File 323:RAPRA Rubber & Plastics

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00794243

TITLE: GLASS-MAT REINFORCED PP SHEET DESIGNED FOR AUTO PARTS

SOURCE: Plastics News International; Nov.2000, p.8

JOURNAL ANNOUNCEMENT: 200102 RAPRA UPDATE: 200101

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: GE Plastics has introduced a new glass mat-reinforced PP composite sheet for interior automotive applications such as headliners. Called Azdel Superlite, the material is capable of being direct moulded, is ultra-light, and offers a high ratio of stiffness to weight. In addition, it is self-supporting, and provides varying airflow properties and better moisture resistance and lower emissions than traditional materials, it is reported.

DESCRIPTORS: APPLICATION; AUTOMOTIVE APPLICATION; COMPANIES; COMPANY; COMPOSITE; COST; DATA; DIMENSIONAL STABILITY; DIRECT MOLDING; DIRECT MOLDING; FLEXURAL PROPERTIES; GLASS FIBRE-REINFORCED PLASTIC; GLASS MAT; GRP; HEADLINER; LINING; MOLDING; MOULDING; PLASTIC; POLYPROPENE; POLYPROPYLENE; PP; PRODUCT ANNOUNCEMENT; PRODUCTION COST; RECYCLABILITY; RECYCLING; REINFORCED PLASTIC; REINFORCED PLASTICS; SHEET; STIFFNESS; TECHNICAL; THERMOPLASTIC; VEHICLE INTERIOR

41/7,DE/20 (Item 6 from file: 323)

DIALOG(R)File 323:RAPRA Rubber &amp; Plastics

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00745210

TITLE: LIGHTWEIGHT GMT

SOURCE: Modern Plastics International; 29, No.9, Sept.1999, p.118

ISSN: 0026-8283

CODEN: MOPLAY JOURNAL ANNOUNCEMENT: 199911 RAPRA UPDATE: 199922

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Features and production methods are briefly described for GE Plastics' new Azdel Superlite range of glass mat-reinforced thermoplastics. The materials can be processed at pressures below 5 bar, and are also thermoformable. Targeted applications include automotive roof liners. Superlite roof liners are compared to polyurethane ones, are found to provide superior sound insulation and are 25% thinner for the same strength, flexural strength and modulus.

DESCRIPTORS: ACOUSTIC INSULATION; APPLICATION; AUTOMOTIVE APPLICATION; COMPANIES; COMPANY; COMPOSITE; DATA; ELASTOMER; FLEXURAL PROPERTIES; FLEXURAL STRENGTH; GLASS FIBRE-REINFORCED PLASTIC; GLASS MAT; GRP; INSULATION; LIGHTWEIGHT; LOW-PRESSURE MOLDING; LOW-PRESSURE MOULDING; MECHANICAL PROPERTIES; MODULI; MODULUS; NOISE INSULATION; PLASTIC; POLYPROPENE; POLYPROPYLENE; POLYURETHANE; POWDER; PP; PRODUCT ANNOUNCEMENT; PROPERTIES; PU; REINFORCED PLASTIC; REINFORCED PLASTICS; RUBBER; SHORT ITEM; SLURRY; SOUND INSULATION; TECHNICAL; THERMOFORMABLE; THERMOPLASTIC; THERMOSET; VEHICLE ROOF LINER

41/7,DE/21 (Item 7 from file: 323)

DIALOG(R)File 323:RAPRA Rubber &amp; Plastics

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00737540

TITLE: IMPROVED MATERIALS PROMISE NEW OPPORTUNITIES FOR GMT

AUTHOR(S): van Damme P; Groen J; Peterson C

CORPORATE SOURCE: Azdel BV

SOURCE: Reinforced Plastics; 43, No.7/8, July/Aug.1999, p.48-50

ISSN: 0034-3617

JOURNAL ANNOUNCEMENT: 199909 RAPRA UPDATE: 199916

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: The European market for glass mat reinforced thermoplastics (GMT) is expected to show an average annual growth rate of 15% over the period 1997-2002. The main market for GMT products is the automotive industry. The largest single application for GMT in Europe is front end modules. Material advances include Azdel Adflo C and Azdel Long Chopped Fibre mat laminates. New opportunities also exist in the area of non-structural interior parts, for which Azdel Superlite has been developed.

DESCRIPTORS: APPLICATION; AUTOMOTIVE APPLICATION; BLEND; BODY PANEL; BODY PANELS; BUMPER; CHOPPED FIBER; CHOPPED FIBRE; COMPANIES; COMPANY; COMPOSITE; COMPRESSION MOLDING; COMPRESSION MOULDING; COST; COSTS; CYCLE TIME; DATA; DEMAND; DIMENSIONAL STABILITY; DOOR; ECONOMIC INFORMATION; ELASTICITY; ENERGY ABSORPTION; ENGINE; FIBER CONTENT; FIBER LENGTH; FIBRE CONTENT; FIBRE LENGTH; FLEXURAL MODULUS; FLEXURAL PROPERTIES; FLOW PROPERTIES; FOAM-CORE; FORMING; GLASS MAT; GRAPH; GROWTH RATE; HEADLINER; I-BEAM; IMPACT PROPERTIES; IMPACT RESISTANCE; IMPACT RESISTANT; INSTRUMENT PANEL; LAMINATE; LINING; LOFTED STRUCTURE; MECHANICAL PROPERTIES; MINERAL FILLED; MOLDING; MOULDING; PLASTIC; POLYPHENYLENE OXIDE; POLYPROPENE; POLYPROPYLENE; POLYSTYRENE; POLYURETHANE; PP; PPO; PRESSURE FORMING; PROPERTIES; PS; PU; RECYCLED CONTENT; REINFORCED PLASTIC; REINFORCED PLASTICS; REINFORCED THERMOPLASTIC; SANDWICH STRUCTURE; SEAT; SHIELDING; STATISTICS; STIFFNESS; TECHNICAL; THERMOPLASTIC; TOOLING; TOUGHNESS; VACUUM FORMING; VEHICLE DOOR; VEHICLE INTERIOR; VEHICLE SEAT; WALL THICKNESS; WEIGHT; WEIGHT REDUCTION

41/7,DE/22 (Item 8 from file: 323)

DIALOG(R)File 323:RAPRA Rubber & Plastics

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00726048

TITLE: THERMOPLASTICS ARE REPLACING STEEL AND ALUMINIUM

AUTHOR(S): Motahari G; Tabankia F; Kuhn M; Litjens F; MacMahon D;  
Grosser M

CORPORATE SOURCE: GE Plastics

SOURCE: Kunststoffe Plast Europe; 89, No.3, March 1999, p.22-3. (Translated from Kunststoffe 89 (1999) 3, pp.74-6)

ISSN: 0941-3596

JOURNAL ANNOUNCEMENT: 199906 RAPRA UPDATE: 199911

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: The substitution of steel and aluminium by thermoplastics in cars is discussed with particular reference to the design of instrument panels, seats, throttle bodies, and body panels. Advantages offered by the use of plastics are examined, and details are given of specific applications and grades of materials used. Design developments by GE Plastics design subsidiary GE Polymer Design Associates, and the use of GE Plastics materials are described.

DESCRIPTORS: APPLICATION; AUTOMOTIVE APPLICATION; BLEND; CARBONATE POLYMER; CELLULAR MATERIAL; COMPANIES; COMPANY; CONDUCTIVE PLASTIC; CONDUCTIVE POLYMER; DATA; DIMENSIONAL STABILITY; DOOR; ENERGY ABSORPTION; ENERGY CONSERVATION; FLEXURAL PROPERTIES; FOAM; FUEL ECONOMY; GLASS FIBRE-REINFORCED PLASTIC; GRP; HEADLINER; HEAT RESISTANCE; HOUSING; IN-MOLD COLORING; IN-MOLD COLOURING; IN-MOULD COLOURING; INSTRUMENT PANEL; LINING; MECHANICAL PROPERTIES; METAL REPLACEMENT; MODULAR; PBTP; PEI; PLASTIC; POLYBUTYLENE TEREPHTHALATE; POLYCARBONATE; POLYETHERIMIDE; POLYPHENYLENE OXIDE; POLYPROPENE; POLYPROPYLENE; PP; PPO; PRODUCT ANNOUNCEMENT; SAFETY; SEAT; STIFFNESS; TECHNICAL; THERMAL STABILITY; THERMOPLASTIC; THROTTLE; VEHICLE; VEHICLE DOOR; VEHICLE SEAT; WEIGHT REDUCTION

41/7,DE/23 (Item 9 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00720568

TITLE: GROWING INTEREST IN THERMOPLASTIC POLYURETHANES FOR AUTOMOBILE DESIGN

AUTHOR(S): Mouland J; LeMonte B  
CORPORATE SOURCE: JPS Elastomerics; Polymar  
SOURCE: Macplas International; Nov. 1998, p.82-3  
ISSN: 0394-3453  
JOURNAL ANNOUNCEMENT: 199905 RAPRA UPDATE: 199909  
DOCUMENT TYPE: Journal Article  
LANGUAGE: English  
SUBFILE: (R) RAPRA

ABSTRACT: The use and benefits of thermoplastic polyurethanes in car designs are examined. The properties of the material which make it so suitable for automotive applications are described, and applications considered include security glazing, vehicle seating, noise reduction and waterproofing and barrier applications.

DESCRIPTORS: ABRASION RESISTANCE; ABRASION RESISTANT; ACOUSTIC INSULATION; APPLICATION; AUTOMOTIVE APPLICATION; BARRIER PROPERTIES; CARBONATE POLYMER; CHEMICAL PROPERTIES; CHEMICAL RESISTANCE; CHEMICAL RESISTANT; COMPANIES; COMPANY; DATA; ELASTICITY; ELONGATION; FLEXIBILITY; FLEXIBLE; INSULATION; LAMINATE; MECHANICAL PROPERTIES; NOISE INSULATION; PLASTIC; POLYCARBONATE; POLYURETHANE; PROPERTIES; PU; ROOF LINING; SAFETY GLASS; SEAT; SECURITY APPLICATION; SOUND INSULATION; TECHNICAL; TEMPERATURE RESISTANCE; TEMPERATURE RESISTANT; TENSILE PROPERTIES; TENSILE STRENGTH; THERMOPLASTIC; VEHICLE SEAT; WATERPROOFING; WEAR RESISTANCE; WEAR RESISTANT

41/7,DE/24 (Item 10 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00706077

TITLE: PUT A FILM IN THE CAR  
SOURCE: Materie Plastiche ed Elastomeri; Nos.1/2, Jan./Feb.1998, p.40-3  
ISSN: 0025-5459  
CODEN: MPELAK JOURNAL ANNOUNCEMENT: 199902 RAPRA UPDATE: 199903  
DOCUMENT TYPE: Journal Article  
LANGUAGE: Italian  
SUBFILE: (R) RAPRA  
ABSTRACT: Automotive applications of thermoplastic PU films produced by JPS

Elastomerics are examined. These include safety glass interlayers, seat components, acoustic insulation and moisture and air barriers for roof liners and door cavities.

DESCRIPTORS: ABRASION RESISTANCE; ABRASION RESISTANT; ACOUSTIC INSULATION; ADDITIVE; ADHESION; ADHESIVE; ADHESIVE FILM; AIR BARRIER; ALIPHATIC; APPLICATION; AUTOMOTIVE APPLICATION; BLADDER; BOND; BONDING; BONDING AGENT; BURST STRENGTH; CAR; CARBONATE POLYMER; CELLULAR MATERIAL; CHEMICAL PROPERTIES; CHEMICAL RESISTANCE; CHEMICAL RESISTANT; COLOR; COLOUR; COMPANIES; COMPANY; DASHBOARD; DATA; DISCOLORATION; DISCOLOURATION; DOOR; ELASTICITY; ELASTOMER; ELECTROMAGNETIC WELDING; ELONGATION; ENGINE; FABRIC; FILM; FILMS; FLEXIBILITY; FLEXIBLE; FOAM; HARDNESS; HEAT RESISTANCE; HEAT-SEALING; IMPACT PROPERTIES; IMPACT STRENGTH; INFLATION; INSTRUMENT PANEL; INSULATION; INTERLAYER; LAMINATE; LIGHT DEGRADATION; LIGHT STABILITY; LOW TEMPERATURE PROPERTIES; MECHANICAL PROPERTIES; MOISTURE BARRIER; NOISE INSULATION; NOISE REDUCTION; OIL RESISTANCE; OIL RESISTANT; OPACITY; OPTICAL PROPERTIES; PLASTIC; PNEUMATIC; POLYCARBONATE; POLYURETHANE; PRESSURE; PROPERTIES; PU; ROOF; RUBBER; SAFETY GLASS; SEAT; SHEET; SOUND INSULATION; SURFACE FINISH; TECHNICAL; TEMPERATURE; TENSILE PROPERTIES; TENSILE STRENGTH; THERMAL STABILITY; THERMOPLASTIC; THICKNESS; TRADE NAME; TRANSPARENCY; TUBING; UNDER THE BONNET APPLICATION; UNDER-THE-BONNET APPLICATION; VANDAL PROOF; VEHICLE DOOR; VEHICLE ENGINE; VEHICLE ROOF; VEHICLE ROOF LINER; VEHICLE SEAT; VEHICLE TRIM; VEHICLE WINDOW; WEAR RESISTANCE; WEAR RESISTANT; WELDING; WINDSCREEN; YELLOWING

41/7,DE/25 (Item 11 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00659476

TITLE: PU USE NOW AND THE WAY FORWARD

SOURCE: Plastics and Rubber Weekly; Special Suppl.Oct.1997, p.23-7

ISSN: 0032-1168

JOURNAL ANNOUNCEMENT: 199802 RAPRA UPDATE: 199803

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Nearly 900,000 tonnes of PU were used globally by vehicle manufacturers in 1996, with a typical family car containing around 18kg of PU. ICI is working closely with automakers and moulders to develop PU systems for both new applications and for replacement of currently used materials. The largest growth area is expected to be acoustic attenuation, followed by other sub-systems such as door panels, steering wheels and dashboards.

DESCRIPTORS: ABS; ACOUSTIC INSULATION; ADHESION; APPLICATION; ATTENUATION; AUTOMOTIVE APPLICATION; CARPET; CELLULAR MATERIAL; COLD CURE; COLD CURING; COLD-CURING; COMPANIES; COMPANY; COMPOSITE; COMPUTER MODEL; CONSUMPTION; COST; COSTS; DASHBOARD; DATA; DENSITY; DOOR PANEL; DYNAMIC PROPERTIES; ECONOMIC INFORMATION; ENERGY ABSORPTION; FOAM; INSULATION; INTEGRAL SKIN FOAM; MAPPING; MECHANICAL PROPERTIES; MOLDING; MOULDING; NOISE INSULATION; PARCEL SHELF; PLASTIC; POLYPROPENE; POLYPROPYLENE; POLYURETHANE; POLYVINYL CHLORIDE; PP; PROPERTIES; PU; PVC; REACTION INJECTION MOLDING; REACTION INJECTION MOULDING; REINFORCED PLASTIC; REINFORCED PLASTICS; REINFORCED REACTION INJECTION MOLDING; REINFORCED REACTION INJECTION MOULDING; ROOF LINING; SAFETY; SEAT; SOUND INSULATION; STATISTICS; STEERING WHEEL; STRUCTURAL REACTION INJECTION MOLDING; STRUCTURAL REACTION INJECTION MOULDING; THERMOPLASTIC; THERMOSET; VEHICLE SEAT; WEIGHT REDUCTION

41/7,DE/26 (Item 12 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00606818

TITLE: POLYMERS ASSIST CAR COMFORT

AUTHOR(S): Williams D

SOURCE: European Chemical News; 66, No.1735, 7th-13th Oct.1996, p.17-8

ISSN: 0014-2875

CODEN: ECHNAW JOURNAL ANNOUNCEMENT: 199701 RAPRA UPDATE: 199625

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: Along with being more comfortable, tomorrow's car will have to take account of enhanced safety and ecological and economic considerations, says Bayer. Besides being lighter for better road handling and improved fuel efficiency, it will have to be easily dismantled for recycling. About a quarter by weight of today's middle-sized saloon cars is made of synthetic polymers, including some 125kg of engineering polymers and 30kg of PUs. Bayer predicts this share will grow to about one-third in the foreseeable future. Developments by Bayer are outlined including plastic-metal hybrid technology for dashboard supports, seats, headlight lenses and coatings.

DESCRIPTORS: ABS; AUTOMOTIVE APPLICATION; BODY PANEL; BUMPER; BUTADIENE-STYRENE COPOLYMER; CARPET; CHIP RESISTANCE; COATING; COMPANY; COMPOSITE; CONSUMPTION; DASHBOARD; DATA; DOOR; ELASTOMER; ENERGY ABSORPTION; ENGINEERING APPLICATION; ENGINEERING PLASTIC; EPDM; ETHYLENE-PROPYLENE COPOLYMER; ETHYLENE-PROPYLENE RUBBER; ETHYLENE-PROPYLENE-DIENE TERPOLYMER; FASCIA; FILLER; FOAM; FUEL CONSUMPTION; GLASS FIBRE-REINFORCED PLASTIC; GRP; HEAD REST; HEADLINER; HNBR; HOSE; HYBRID; HYDROGENATED NBR; IMPACT MODIFIED; INSTRUMENT PANEL; LENS; LINING; LOAD BEARING; MARKET SHARE; MECHANICAL PROPERTIES; NOISE REDUCTION; NON-TYRE; PLASTIC; POLYAMIDE-6; POLYCARBONATE; POLYURETHANE; PRIMER; PRODUCTION COST; PU; RAW MATERIAL; RECYCLING; REINFORCED PLASTIC; REPAIRING; RIGIDITY; ROLLING RESISTANCE; RUBBER; SALES; SBR; SEAL; SEAT; STEERING WHEEL; STRUCTURAL PART; SYNTHETIC RUBBER; TEMPERATURE RANGE; THERMOPLASTIC; THERMOSET; TIMING BELT; TURNOVER; TYRE; UNDER-THE-BONNET APPLICATION; VEHICLE HEADLIGHT; VEHICLE TRIM; WATER-BASED; WEIGHT REDUCTION; GLASS FIBER-REINFORCED PLASTIC; NON-TIRE; TIRE

41/7,DE/27 (Item 13 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00587310

TITLE: PP BEAD GETS "BOUNCE" FROM MARKET, TECHNOLOGY SHIFTS

AUTHOR(S): Leaversuch R D

SOURCE: Modern Plastics International; 26, No.4, April 1996, p.27-8

ISSN: 0026-8283

CODEN: MOPLAY JOURNAL ANNOUNCEMENT: 199607 RAPRA UPDATE: 199612

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: In the past decade, expandable PP bead has made a visible impact

in automobile bumper cores, flotation devices and protective shape markets. Now the industry is bent on extending the rigid foam's reach into automobile interiors, where impact and sound dampening protection are high priorities. BASF says EPP offers cost, energy-efficiency, handling and weight benefits. European OEMs are developing all-PP vehicle interior systems that include EPP padding, for example knee bolsters, headliners, pillars, side bodies and instrument panel systems. EPP's benefits in shape packages include cushioning equal to that of PUR, precise conformity to shapes and 20% higher temperature performance than solid PP.

DESCRIPTORS: ANTISTATIC PROPERTIES; BEAD; BLOWING AGENT; BUMPER; CFC FREE; CLOSED CELL; COMPANY; CONSUMPTION; COST; CUSHIONING; DATA; DENSITY; ELECTRONIC APPLICATION; EMISSION; ENERGY EFFICIENCY; FLOATATION; FLOTATION; FOAM; FOAM-CORE; GROWTH RATE; HANDLING; HEADLINER; HEAT DEFLECTION TEMPERATURE; HOUSING; IMPACT PROPERTIES; IN-MOULD SKINNING; INSTRUMENT PANEL; INTEGRAL SKIN; KNEE BOLSTER; LINING; LIVING HINGE; MECHANICAL PROPERTIES; PACKAGING; PILLAR; PLASTIC; POLYPROPYLENE; PP; RETURNABLE; SEQUENTIAL INJECTION MOULDING; SOUND DAMPING; STRUCTURAL PART; THERMAL INSULATION; THERMOPLASTIC; VEHICLE INTERIOR; WEIGHT REDUCTION; IN-MOLD SKINNING; SEQUENTIAL INJECTION MOLDING

41/7,DE/28 (Item 14 from file: 323)  
DIALOG(R)File 323:RAPRA Rubber & Plastics  
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00459810

TITLE: SYSTEMS INTEGRATION IS THE THEME FOR INTERIORS

AUTHOR(S): Mapleston P

SOURCE: Modern Plastics International; 22, No.10, Oct.1992, p.48-51

ISSN: 0026-8283

CODEN: MOPLAY JOURNAL ANNOUNCEMENT: 199301 RAPRA UPDATE: 199224

DOCUMENT TYPE: Journal Article

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: This article discusses the inter-material competition for vehicle interior components, including instrument panels, doors and interior panels, carpets, seating and head liners. Influencing factors include the need to make a higher share of automobile components recyclable, cost-containment, the growing use of passive safety elements such as airbags that place significant structural demands on such components as instrument panels, improved sound and vibration insulation, and cushioned panelling.

DESCRIPTORS: ABS; ACOUSTIC INSULATION; ACRYLONITRILE-STYRENE-ACRYLATE TERPOLYMER; ADHESIVE; AIR BAG; ASA; AUTOMOBILE; AUTOMOTIVE APPLICATION; CALENDER; CARPET; CELLULAR MATERIAL; COMPOSITE; COMPRESSION MOULDING; CONSUMPTION; COPOLYESTER; CUSHION; CYCLE TIME; DATA; DEMAND; DOOR; ENGINEERING APPLICATION; ENGINEERING PLASTIC; EXTRUSION; FILLER; FOAM; FOIL; FORMING; GLASS FIBRE-REINFORCED PLASTIC; GRP; INJECTION MOULDING; INSTRUMENT PANEL; LAMINATE; MACHINERY; OLEFIN POLYMER; PANEL; PHENYLENE OXIDE POLYMER; POLYCARBONATE; POLYOLEFIN; POLYPHENYLENE OXIDE; POLYPROPYLENE; POLYSTYRENE; POLYURETHANE; POLYVINYL CHLORIDE; PP; PPO; PROPERTIES; PROPYLENE POLYMER; PS; PU; PVC; REACTION MOULD; RECYCLING; REINFORCED PLASTIC; RUBBER; SATURATED POLYESTER; SEAT; SKIN; SLUSH MOULD; STAMPING; STRUCTURAL REACTION INJECTION MOULD; STYRENE POLYMER; STYRENE-MALEIC ANHYDRIDE COPOLYMER; SYNTHESIS; TEXTILE; THERMOFORMING; THERMOPLASTIC; THERMOPLASTIC ELASTOMER; THERMOSET; VACUUM FORMING; VEHICLE LINING; VEHICLE TRIM; VINYL CHLORIDE POLYMER; COMPRESSION MOLDING; GLASS FIBER-REINFORCED PLASTIC; INJECTION MOLDING; REACTION

## MOLD; SLUSH MOLD; STRUCTURAL REACTION INJECTION MOLD

41/7,DE/29 (Item 1 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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140408202 CA: 140(25)408202w PATENT  
Process for manufacturing dressing for inner linings of automobiles  
INVENTOR(AUTHOR): Mirones, Gomez Ramon; Ariznavarreta, Anselmo  
LOCATION: Spain,  
ASSIGNEE: Grupo Antolin Ingenieria, S.A.  
PATENT: European Pat. Appl. ; EP 1419880 A1 DATE: 20040519  
APPLICATION: EP 2002380232 (20021107)  
PAGES: 7 pp. CODEN: EPXXDW LANGUAGE: English CLASS: B32B-005/06A;  
B29B-015/10B; B29C-043/18B; B32B-031/00B; B60R-013/02B  
DESIGNATED COUNTRIES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL;  
SE; MC; PT; IE; SI; LT; LV; FI; RO; MK; CY; AL; TR; BG; CZ; EE; SK  
SECTION:  
CA240010 TEXTILES AND FIBERS  
CA238XXX Plastics Fabrication and Uses  
IDENTIFIERS: automobile inner lining dressing manuf, fiber blanket  
reinforcement layer laminate  
DESCRIPTORS:  
Textiles...  
blankets, intermediate layer; process for manufacturing dressing for inner  
linings of automobiles  
Reinforced plastics...  
fiber-reinforced; process for manufacturing dressing for inner linings of  
automobiles  
Automobiles...  
headlinings; process for manufacturing dressing for inner linings of  
automobiles  
Automobiles...  
interior parts; process for manufacturing dressing for inner linings of  
automobiles  
Textiles...  
laminated; process for manufacturing dressing for inner linings of  
automobiles  
Natural fibers... Synthetic fibers... Lamination...  
process for manufacturing dressing for inner linings of automobiles  
Paper...  
protective sheet; process for manufacturing dressing for inner linings of  
automobiles  
Glass fibers,uses...  
reinforcement layer; process for manufacturing dressing for inner linings of  
automobiles  
Plastics,uses...  
thermoplastics; process for manufacturing dressing for inner linings of  
automobiles

41/7,DE/30 (Item 2 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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137110238 CA: 137(8)110238p PATENT  
Manufacture of heat-sealable laminates for automotive interiors  
INVENTOR(AUTHOR): Sandt, Richard L.; Kittel, Mark D.; Lum, Henry, Jr.

LOCATION: USA

ASSIGNEE: Avery Dennison Corporation

PATENT: PCT International ; WO 200255295 A1 DATE: 20020718

APPLICATION: WO 2001US49084 (20011218) \*US 758092 (20010110)

PAGES: 44 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: B32B-007/12A;

B32B-009/00B; B32B-027/08B; B42D-015/00B DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM

DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA238003 Plastics Fabrication and Uses

IDENTIFIERS: heat sealable pressure sensitive laminate automotive interior

DESCRIPTORS:

Doors...

automotive; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Automobiles...

dashboards; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Automobiles...

headlinings; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Adhesives...

heat-sealable; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Safety devices... Clothing...

helmets; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Automobiles...

interior parts; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Polyolefins... Polyesters,uses... Polyamides,uses... Acrylic polymers,uses... Polyurethanes,uses... Polycarbonates,uses... Polysulfones,uses... Epoxy resins,uses... Inks... Transparent films... Laminated materials...

Plastics,uses... Ionomers... Carpets... Floor coverings... Appliances...

Sporting goods...

manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Fuels...

motor fuels, cap; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Automobiles...

panels; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Automobiles...

parts, visors; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Inks...

radiation-curable; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Safety devices...

seat belts; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors



Belts...

seat; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Upholstery...

seats, automotive; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Metals,uses... Leather... Paper... Textiles...

substrate; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Plastics,uses...

thermoplastics; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

Electric appliances...

vacuum cleaners; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

CAS REGISTRY NUMBERS:

442853-00-1 abrasion-resistant transparent coating; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

442868-71-5 adhesion promoting primer; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

442868-94-2 adhesive layer coating; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

442869-01-4 antiblock; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

25103-74-6 Emac SP 2268T; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

9003-53-6 25014-41-9 9010-79-1 25608-26-8 28516-43-0 25053-53-6

9010-77-9 9010-86-0 9011-13-6 9003-54-7 9011-14-7 9003-07-0

manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

442903-96-0 250267-90-4 pigment, core layer composition containing; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

252730-44-2 slip additive; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

24937-78-8 upper thermoplastic layer containing; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

9004-34-6 uses, manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

13463-67-7 471-34-1 uses, pigment; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

250267-65-3 UV-stabilizer; manufacture of heat-sealable pressure-sensitive laminates for automotive interiors

?

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L19 6 ANSWERS HCA COPYRIGHT 2004 ACS on STN  
 CC 37-6 (Plastics Manufacture and Processing)  
 TI **AZDEL Superlite** sheet - commercial guide part 1  
 ST glass fiber sheet plastic **molding thermal** sound insulator  
 IT Chemically resistant materials  
 Melt viscosity  
 Porous materials  
 Stiffness  
 (Azdel Superlite sheet com. guide)  
 IT Polythiophenylenes  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (Azdel Superlite sheet com. guide)  
 IT Reinforced plastics  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (glass fiber-reinforced; Azdel Superlite sheet com. guide)  
 IT Polyimides, properties  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (polyether-; Azdel Superlite sheet com. guide)  
 IT Polyethers, properties  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (polyimide-; Azdel Superlite sheet com. guide)  
 IT Glass fibers, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (reinforced plastic; Azdel Superlite sheet com. guide)  
 IT Molding of plastics and rubbers  
 (sheet-molding; Azdel Superlite sheet com. guide)  
 IT Fire-resistant materials  
 (sheets; Azdel Superlite sheet com. guide)  
 IT Thermal insulators  
 (sound-insulating; Azdel Superlite sheet com. guide)  
 IT Sound insulators  
 (thermally insulating; Azdel Superlite sheet com. guide)  
 IT Glass fibers, properties  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (thermally insulating; Azdel Superlite sheet com. guide)  
 IT 9003-07-0, Azdel Superlite  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (Azdel Superlite sheet com. guide)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

L19 6 ANSWERS HCA COPYRIGHT 2004 ACS on STN  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38  
 TI **AZDEL Superlite** sheet - commercial guide part 2  
 ST glass fiber sheet plastic **molding thermal** sound insulator  
 IT Chemically resistant materials  
 Melt viscosity

- Porous materials
- Stiffness
  - (**Azdel Superlite** sheet com. guide)
- IT Polythiophenylenes
  - RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
  - (**Azdel Superlite** sheet com. guide)
- IT Glass fibers, uses
  - RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
  - (**Azdel Superlite** sheet com. guide)
- IT Reinforced plastics
  - RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (glass fiber-reinforced; **Azdel Superlite** sheet com. guide)
- IT Polyimides, properties
  - RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
  - (polyether-; **Azdel Superlite** sheet com. guide)
- IT Polyethers, properties
  - RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
  - (polyimide-; **Azdel Superlite** sheet com. guide)
- IT Molding of plastics and rubbers
  - (sheet-molding; **Azdel Superlite** sheet com. guide)
- IT Fire-resistant materials
  - (sheets; **Azdel Superlite** sheet com. guide)
- IT Thermal insulators
  - (sound-insulating; **Azdel Superlite** sheet com. guide)
- IT Sound insulators
  - (thermally insulating; **Azdel Superlite** sheet com. guide)
- IT Glass fibers, properties
  - RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
  - (thermally insulating; **Azdel Superlite** sheet com. guide)
- IT 9003-07-0, **Azdel**
  - RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
  - (**Azdel Superlite** sheet com. guide)
- L19 6 ANSWERS HCA COPYRIGHT 2004 ACS on STN
- CC 37-6 (Plastics Manufacture and Processing)
- TI **Azdel Superlite** sheet - processing guides
- ST sheet long glass fiber resin particle composite **thermoforming**
- IT Adhesive films
- Nonwoven fabrics
- Plastic films
- Surface
  - (**Azdel Superlite** sheet processing guides)
- IT Reinforced plastics

- RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (glass fiber-reinforced; **Azdel Superlite** sheet processing guides)
- IT Glass fibers, properties  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (long; **Azdel Superlite** sheet processing guides)
- IT Molding of plastics and rubbers  
 (pressure, low pressure; **Azdel Superlite** sheet processing guides)
- IT Particles  
 (resin matrix; **Azdel Superlite** sheet processing guides)
- IT 9003-07-0, **Azdel**  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (**Azdel Superlite** sheet processing guides)
- L19 6 ANSWERS HCA COPYRIGHT 2004 ACS on STN  
 CC 38-0 (Plastics Fabrication and Uses)  
 TI New materials and machines take center stage at SPE expo  
 ST review **thermoforming** plastics engineering  
 IT Molding of plastics and rubbers  
 (**thermoforming**; **thermoforming** plastics engineering)
- IT Plastics, miscellaneous  
 RL: MSC (Miscellaneous)  
 (**thermoplastics**; **thermoforming** plastics engineering)
- L19 6 ANSWERS HCA COPYRIGHT 2004 ACS on STN  
 CC 37-6 (Plastics Manufacture and Processing)  
 TI **Azdel Superlite** sheet - technical guide part 1  
 ST glass fiber sheet plastic **molding thermal** sound insulator
- IT Chemically resistant materials  
 Melt viscosity  
 Porous materials  
 Stiffness  
 (**Azdel Superlite** sheet tech. guide)
- IT Polythiophenylenes  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (**Azdel Superlite** sheet tech. guide)
- IT Glass fibers, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
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- IT Polyethers, properties  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

- (polyimide-; **Azdel Superlite** sheet tech. guide)
- IT Molding of plastics and rubbers  
(sheet-molding; **Azdel Superlite** sheet tech. guide)
- IT Fire-resistant materials  
(sheets; **Azdel Superlite** sheet tech. guide)
- IT Thermal insulators  
(sound-insulating; **Azdel Superlite** sheet tech. guide)
- IT Sound insulators  
(thermally insulating; **Azdel Superlite** sheet tech. guide)
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- IT 9003-07-0, **Azdel Superlite**  
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- TI **AZDEL Superlite** sheet - technical guide part 2
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- IT Sound insulators  
(thermally insulating; **Azdel Superlite** sheet tech. guide)

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RL: TEM (Technical or engineered material use); USES (Uses)  
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guide)  
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(**Azdel Superlite** sheet tech. guide)

ALL ANSWERS HAVE BEEN SCANNED

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